FEEDSTUFFS

★ A WEEKLY NEWSPAPER ★

FOR THE FEED MANUFACTURER, JOBBER, BROKER and DEALER

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APHF Decides Not To Request Cut in Broiler Egg Set

KANSAS CITY — The American Poultry & Hatchery Federation has decided against making a nation-wide appeal for a cutback in broiler egg settings during the next 30 days. Such a move had been requested by several prominent broiler hatcherymen.

The decision against the appeal was announced by Don M. Turnbull, APHF executive secretary, in a recent letter to the APHF board of directors and state affiliate officers. The decision was made by Vern F. Steckley, Kendallville, Ind., APHF president, after he had made "a careful study of the situation."

Mr. Turnbull's letter, in part, follows:

"The fantastic gain in broiler egg settings for the week of March 7 as compared with the corresponding week of a year ago is perhaps without parallel. For the nation, settings showed a 23.7% gain. Mississippi showed a 59.1% increase, and Alabama was second with 53.5% gain.

"The four states of Mississippi, Arkansas, Louisiana and Texas showed a combined gain of 32.6% over the corresponding week of last year, and the five states of North and South Carolina, Georgia, Florida and Alabama set 31.9% more eggs.

"The three West Coast states set 37.1% more eggs than last year. The Delmarva broiler area was up 16.8%.

"With the huge number of breeders in hatchery supply flocks, it is not

(Turn to APHF, page 101)

Brand Names Seen As Salvation for Broiler Industry

HARRISONBURG, VA. — Development of retail brand names in the marketing of broilers can answer the problems of over-production and sagging prices, a poultry industry leader said here recently.

Voluntary control of production will probably never work any more effectively than it has in the past, according to G. E. Coleman, Jr., president, Nichols, Inc., Exeter, N.H., poultry breeding firm, in an address entitled "The Bloody Battle for Survival," presented to a Virginia poultry meeting.

It is futile to try to place the blame for the broiler industry's present woes, he said. He pointed out that during the past two decades nearly every member of the industry has failed to use the tools for keeping the broiler business in line with demand. These tools, he said, are egg settings, chick placements, breeder sales and blood testing.

While everyone agrees on the necessity for production controls and cutbacks, he said, it is only human nature to hope that someone else will take this necessary step.

"Who will cut?" he asked. "Virginia wants Maine to cut. Maine wants Delmarva to cut, and so on. Every time a gentleman's agreement is violated, we have a new crisis to meet."

Mr. Coleman touched upon the various arrangements that have been tried without much success. Failing a workable agreement among geo-

(Turn to BRAND NAMES, page 101)

Feed Booking Principles Announced by AFMA

CHICAGO — A revised Feed Merchandising Plan, a guide to contract sales of manufactured feed, is being recommended to members of American Feed Manufacturers Assn. by its board of directors. Companies are being asked to notify the AFMA office in Chicago of their approval of the principles set forth in the plan.

This was announced by W. E. Glennon, AFMA president, in a bulletin to all active members of the association.

He explained that both the AFMA board of directors and the association's Sales Executives Council had given their unanimous approval and support. Thirty-four companies of all sizes and from all parts of the U.S. are represented in the two groups.

(A news report of a discussion of the proposed feed booking principles and the entire booking problem, heard at a meeting of the Northwest Feed Manufacturers Assn., appeared in the Feb. 28 issue of Feedstuffs. Also see editorials in Feb. 28 issue and in this issue.)

Six Points

The new AFMA Feed Merchandising Plan includes the following six points:

"1. Bookings of poultry, turkey and hog feeds to be limited to 60 days with minimum carrying charges of 50¢ per ton per month (or fraction thereof) to apply after 30 days.

"2. Bookings of dairy feeds to be limited to 90 days with minimum carrying charge of 50¢ per ton per month (or fraction thereof) to apply after 60 days.

"3. Seasonal bookings of beef cattle and sheep feeds to be limited to 180 days with minimum carrying charge of 50¢ per ton per month (or fraction thereof) to apply after 120 days.

"4. No sale or booking to be made with price guaranteed against market decline.

"5. No contract to be repriced, rewritten, resold or transferred.

"6. If buyer defaults on contract, buyer shall with respect to the unshipped balance pay the market loss, if any."

This new plan will replace the former National Feed Merchandising Council Plan. The first plan was put into effect in 1930, and modified in 1938 and 1948. Mr. Glennon stated,

(Turn to AFMA, page 101)

Eastern States Announces Egg Marketing Plans

WEST SPRINGFIELD, MASS. — Eastern States Farmers Exchange will soon enter the egg marketing field, according to William D. Milsop, general manager. He described the move as "one of the most important steps in the organization's 41-year history."

"Eastern States will market New England-produced eggs by mid-year as the result of overwhelmingly favorable merger votes by members of five New England egg marketing cooperatives," Mr. Milsop stated. "More cooperatives will probably join, as memberships of two more of the eight which jointly developed the merger plan with Eastern States Farmers Exchange will soon vote whether to merge."

He said that the "clincher" to the merger within Eastern States was the March 31 vote by the Brockton (Mass.) Poultry Producers Assn. "With five cooperatives fully committed and more probable, Eastern States is ready to complete its part of the agreement," he said.

Eastern States will set up a mar-

(Turn to EASTERN STATES, page 100)

Feed Industry Feels Effects Of Sharply Lower Egg Prices

The feed industry is beginning to feel the effects this spring of egg prices which have dropped to their lowest level on farms in the past two years.

Industry representatives have reported that hatcheries are getting order cancellations and that sales of replacement chicks this spring have not been good. This in turn has reduced the demand for starter feeds, particularly in the Midwest, stronghold of the small farm flock.

Most feed men are agreed that the prices are certain to affect the feeding policies of the nation's small flock owners, but are not likely to be reflected in demand of the commercial egg producers.

It is believed that these producers, who have a "premium clientele," cannot afford to cut down the size of their flocks or to cut back on the feed requirements necessary for keeping their flocks in good condition and good production.

Prices as low as 21¢ doz. at the farm for Grade A large eggs were reported in the Midwest early this week. A slight improvement later in the week followed a 2¢ increase on the New York market.

The Chicago market for large white, wholesale, delivered Chicago, was at 36 to 37¢ on Jan. 23, and since has dropped steadily to a range of 27 to 32¢ April 1. During the past 10 days the price has not exceeded 32¢, and its lowest point was 27¢ on April 1.

(Turn to EGG PRICES, page 101)

FEEDSTUFFS *Features This Week*

EGG CONTRACTS—A comprehensive review of egg contracting—marketing, quality control, production—appears on **page 46.**

NUTRITION—Broiler nutrition studies are reported by university scientists, **page 26.** Also, see **page 40** for some late information on swine nutrition.

INTEGRATION—The growth of integrated egg and broiler systems in Arkansas is described on **page 18.**

MERCHANDISING—An article on how to get the greatest benefit from an open house following mill remodeling appears on **page 68.**

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Rath Building Feed Plant Addition

WATERLOO, IOWA—Construction of a $650,000 addition to the mixed feed plant of the Rath Packing Co., Waterloo, is under way, it was announced by Joe Gibson, executive vice president. He said the new addition will increase capacity to 600 tons a day and will permit Rath to expand its line of feeds.

Feed mixing, bagging and bulk handling of feed, Mr. Gibson said, will become "highly automatic" with the new facilities. Loading will be speeded up by providing 18 feed load-out bins directly over truck scales.

The addition, which will stand about 100 ft. high, will have a concrete base with a steel superstructure, Mr. Gibson said. Relocation of railroad tracks and a cattle runway will be necessary to accommodate the new addition which will be attached to the present plant.

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A Long-Term Booking

FEED MANUFACTURERS THIS WEEK have been asked to cast their vote for sounder merchandising principles. (See story on page 1.) All active members of the American Feed Manufacturers Assn. have been sent a special bulletin announcing the up-to-date Feed Merchandising Plan which has been approved by the AFMA's board of directors and the Sales Executives Council.

Individual company approval and support of the plan, entirely on a voluntary basis, are strongly urged by the association's leaders. Thirty four companies, comprising a cross section of the industry in size and geographical location, are represented by the board and council membership. Thus, the program already has the initial sound backing required to encourage the active interest of other feed manufacturers.

A great deal of hard work and careful evaluation of the principles embodied in the Feed Merchandising Plan have preceded the announcement this week. A discussion of the problems developing in the industry as a result of haywire booking practices, which took place at a recent meeting of the Northwest Feed Manufacturers Assn., left little doubt that action is essential. The report of this discussion (Feedstuffs, Feb. 28) is well worth rereading, in our opinion.

THE COMMENTS MADE by I. S. Riggs, chairman of the AFMA board, in urging support of the plan boldly underline the need for wide acceptance of it.

"Support of the principles outlined in our new AFMA Feed Merchandising Plan offers an opportunity and a challenge to all of us. It can be instrumental in maintaining and improving business practices and ethics in our industry.

"Today, more than ever before, the focus of public attention is on our industry. Our rapid growth and position of leadership among those industries serving agriculture, has been accompanied by mounting problems of business-like operation. If we are to maintain self-respect and respect of our customers and other publics, we must be willing to meet responsibilities and obligations, both individually and collectively."

During its spectacular growth period of the past several years competitive struggles have led to some broadly criticized methods of doing business, and some probably inevitable blunders in judgment have been made. However, there is increasing evidence that the industry, with the strength and vision of greater maturity, is ready to accept the greater responsibility that accompanies that maturity.

Prompt and positive acceptance of the Feed Merchandising Plan by all manufacturers would be most impressive evidence that the industry has the necessary courage to look a problem in the eye and meet it squarely. As a whole, the industry needs this assurance that it can agree in principle and in fact with a program such as this which will certainly serve its long term interests.

The advice of the AFMA's leaders is sound. The program is sound. Book it.

Men for the Mills

TWENTY KANSAS FEED MILLING companies joined together recently in an effort to interest young Kansans in careers in the feed industry. The mills took aim at a group one might expect would include likely prospects in placing an advertisement in the Kansas 4-H Journal.

"You owe it to yourself to investigate this great and growing field before you decide on your career," the ad states. "Ranking among our nation's top 10 industries, the manufacture of today's scientific feeds for poultry, cattle, swine and sheep offers outstanding opportunities to serious-minded young men."

It also points out that modern mills must have executives and engineers familiar with today's electronic methods. "Naturally, they turn to Kansas State, home of the unique and internationally famous feed milling technology program which has its own modern feed mill right on the campus as part of the finest feed training facilities in the world," the message continues.

Prospective K-State students are invited to write for a booklet detailing the feed technology program and to visit the mills listed in the ad to get a first-hand story about the feed industry and its contributions to agriculture.

Efforts of this kind in other states would be helpful in stirring up interest in the feed tech program. Three times as many job opportunities were waiting for graduates as there were men in the last class. The industry can help itself secure the men it will need in the future by helping to bring the feed tech enrollment nearer to capacity.

How's Business?

AN EVERY WEEK REVIEW OF FORMULA FEED BUSINESS VOLUME, INCLUDING PRICE, SUPPLY AND DEMAND TRENDS

The spring push seems to have arrived in the feed business. The nation reported generally improved business this week. Starter sales, which have been advancing rather slowly, showed a little more urgency, but concern over poultry and egg prices was expressed in many areas. The Midwest, stronghold of the farm flock, appears to be losing several small flocks this spring in the face of egg prices so low that the question facing some producers is how much loss rather than how much profit. The ingredients market reflected the better demand with advancing prices for millfeeds and also for soybean meal. Several mills reported that cost-conscious feeders are increasing their purchases of concentrates and cutting down on complete feeds. The wholesale price index for feedstuffs advanced 1.9 points to 88.3 during the week ending March 31. This was above the 84.1 of a year ago. The feed grain index was up 1.3 points to 67.5, compared with 65.7 a year earlier. (Ingredient prices in detail on pages 98-100.)

Northwest

Demand for formula feed showed improvement this week. Some mills reported business about steady with a week ago, but most reports indicated better movement.

Hog feed sales are showing some improvement following an improvement in hog prices and the generally improved hog feed demand expected at this time of the year.

Poultry starters are also improving, but price for end products is a decided factor in the picture. Mills are reporting less starter demand than at this time a year ago, particularly for feed which would go to layer chicks and also a decided switch from complete feeds to concentrates.

One representative said hatcherymen have told him that small lot sales for the small farm flocks are down noticeably this year. There has also been more cancelling of orders than usual.

Turkey broiler prices are also low, and sales are reflecting it.

Other feeds are moving quite well, except for dairy sales which are also among those not doing as well as might be expected. One representative said feed business generally, even for starters, appears to be good, "but how long it can continue with feeding ratios where they are for some of these things is anybody's guess."

Feed prices next week will show an increase of about $1 to $2 as a result of higher soybean meal and millfeeds. Corn has also been moving upward. Mills are running full time and one mill reported it necessary to move into overtime to meet demand.

Southwest

Although ingredient prices indicate that formula feed business is in the midst of a spring push, mill reports in the Southwest do not reflect this trend. The picture is spotty. A few mills have felt the spring pickup in volume that all have been waiting for, but most others note that the moderate to slow pace that has prevailed for about six weeks is continuing. And there are even mills that have fewer orders this week than last. In this area, mills will operate 4½ to 5 days this week, and some of the five-day runs are skimpy.

A large share of the slowness seems to be attributed to the lack of chick starter business. The low egg prices have acted as a deterrent to the placement of chicks. Hatcheries are reporting a considerable number of cancelled chick orders by farmers who have decided that the outlook for favorable egg markets is not good. The late spring may also be a factor. If this is the case, the pickup in starter business may come along now that the weather has turned warmer. Wet, muddy roads may also have been keeping farmers from coming to town for feed.

Cattle feed volume is fading fast now, but swine feeds are moving well. Pig starter is in especially good demand. There is also a pickup in turkey pre-starter feed, with this movement expected to accelerate steadily now. Turkey breeder rations are moving briskly for some mills.

The steady upward trend of prices the last couple of weeks has not seemed to bring the customary increase in stocking up by farmers and dealers, giving rise to the belief that perhaps the roads have been a slowing factor. Mill price lists for next week are expected to be up from $1 to $3. Corn, millfeed and vegetable proteins have all been stronger.

Northeast

April began on a healthy note, and although dairy feeds have been holding up very well and bran was firm, the end of the season is not too many weeks away.

Sales of formula feeds in general were steady, with egg mashes leading the way. Quite a number of pullets have been put in, and starting and growing feeds have begun to improve. Broiler feeds, however, continued to drag.

The return on end products remained disappointing. Broilers have begun to sag earlier than usual and eggs were off again. Milk held unchanged but levels aren't as good as they could be.

Corn featured the ingredient market with a rise of 3 to 4¢ on light offerings. Oats moved up 1¢ and barley held steady. Feed wheat declined 1¢.

Molasses is being adjusted lower in anticipation of shipments via the Seaway by May.

(Turn to MARKETS, page 102)

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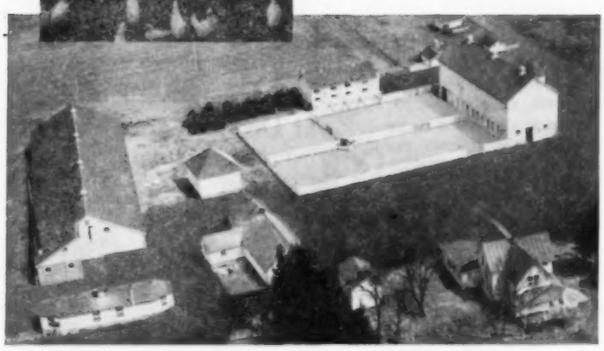

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Commodity-Feed Ratios Mostly Below Last Year

WASHINGTON—The latest report of agricultural prices from the U.S. Department of Agriculture shows that March farm commodity-feed price ratios were mostly below a year ago and in several instances below February ratios and long-term averages.

Declining egg prices are reflected in the mid-March egg-feed ratio of 9.9, which was 2.1 below the same month last year and below the February, 1959, ratio of 10.4. The March egg-feed ratio was also below the 1947-56 average of 11.1.

The March hog-corn ratio, 14.5, was well below last year's March ratio of 20.3, but still above the 1948-57 average of 13.4. The current ratio was also 0.3 below the February figure.

There was little change in the chicken-feed ratio since February, but the March ratio for farm chickens, 3.9, was well under the March, 1958, ratio of 4.9 and substantially under the 5.7 average for 1948-57. For broilers the March ratio was 3.5, same as February, but below the March, 1958, ratio of 4.4.

The turkey-feed ratio slipped to 6.9 last month from 7.3 in February. Both figures were under the March, 1958, ratio of 8.0 and the 1948-57 average ratio of 8.6.

(Turn to **PRICE RATIOS**, page 97)

New Feed Plant Being Built at Albuquerque, N.M.

ALBUQUERQUE, N.M.—A $250,000 feed and fertilizer manufacturing plant, now under construction, is scheduled to be completed by the end of June by Ravel Bros., Albuquerque. Ground was broken this week.

Louis Ravel, chairman of Ravel's board, said the feed mill, producing hog, dairy and poultry rations, will be the first of its kind in the Rio Grande Valley to offer a cash grain market to local farmers. Grain grown in this area will be bought on a yearly contract basis.

The plant will stand on a 15½-acre site south of the city. It will contain 15,500 sq. ft. floor space. There will be 600 ft. of railroad trackage off a nearby rail spur which will run along the south side of the plant, a 50 by 310 ft. all-steel structure.

Feeders south to Socorro and as far east as the Estancia Valley will be served by the new plant.

The feed plant will have about 2,000 sq. ft. floor space for equipment. Five tanks of 50,000-lb. capacity, each with an auger conveyor system and an elevator, will be erected at the east end. Mr. Ravel said starting capacity for the mill is 48 tons of processed feed a day. Almost all of the work is to be done mechanically. The plant will employ 10-12 persons.

Room for 20 more tanks and a three-acre tract on the north side of the mill will allow expansion in the future.

The new plant also includes an 8,500 sq. ft. warehouse and a fertilizer mill, which will have a 50-ton-a-day capacity.

Ravel Bros. began business in Columbus, N.M., in 1910. Starting with two employees, the firm now employs 60 and has five stores, four in Albuquerque and one in Belen, N.M.

Besides its own products, Ravel Bros. carries nursery stock, garden supplies and equipment, as well as feed, seed, fertilizer and other farm supplies.

Officers of the firm are Arthur Ravel, president, who has been with the firm since 1913; Allan Ravel, vice president, and Ira Ravel, secretary-treasurer. Louis Ravel, chairman of the board, joined the firm in 1911.

PURDUE FEEDING TRIALS—Dr. W. M. Beeson (left), acting head of Purdue University's animal science department, and Dr. T. W. Perry, Purdue animal scientist, view a group of steers used in feeding experiments to be discussed at Indiana Cattle Feeders Day April 24. The steers shown are being fed pelleted whole corn plants. The animals can be seen by those attending the feeders day. The event will be held at the livestock experimental farm three miles north of the Purdue campus.

More Layers Needed In Mississippi Plan

PHILADELPHIA, MISS. — Placement of 15,000 more laying hens are needed to warrant the establishment of an egg program in Neshoba County, it was announced recently at a meeting of interested parties.

Those present agreed to handle 45,000 hens, but the goal is 60,000 to attract a major feed company (the name of the firm was not disclosed) to locate in Philadelphia to handle the program.

It was also announced that the company will require 150,000 pullets, but that only 130,000 have been subscribed.

Two programs have been outlined. Under the pullet plan the grower will furnish the house, equipment, labor and litter. The feed company will furnish pullets, feed, supervision and medication. It will pay the grower 18¢ per saleable bird at the end of 18 weeks, and the grower may take pullets in lots of either 3,000 or 6,000.

Under the egg program the grower will furnish the house, equipment, labor and litter, and will deliver eggs to Jackson twice each week. The grower may have either 3,000 or 6,000 laying hens. The feed company will furnish the laying hens, feed, medication and supervision, and will pay the grower $300 or $3,000, or $600 or $6,000.

Donn DeWitt Promoted By Washington Co-op

SEATTLE, WASH. — Harry J. Beernink, general manager of the Washington Cooperative Farmers Assn., announced that Donn DeWitt has been promoted from manager of the cooperative's feed mill at Granger, Wash., to district manager of Oregon operations of Western Farmers Assn., a division of the Washington cooperative. The promotion will be effective April 13.

Mr. Beernink said Mr. DeWitt will direct and coordinate management and departmental activities of Western Farmers Assn. in the Oregon area. Mr. DeWitt was managing the Granger feed mill at the time it was purchased by the Washington cooperative a year ago.

Mr. Beernink mentioned that the functions of Western Farmers Assn. will include construction of a new feed mill in Portland, Ore.

Canadian Sheep Barred

SACRAMENTO, CAL.—Gov. Edmund G. Brown of California has approved an emergency regulation of the California Department of Agriculture which prohibits entry of Canadian sheep into California. The action was taken because of exposure of some Canadian sheep to scrapie, a disease fatal to sheep. W. C. Jacobsen, director of agriculture for California, said scrapie has been diagnosed in seven California flocks since 1952 and that four of the seven outbreaks were attributed to sheep directly or indirectly imported from Canada.

Minnesota Feed Bill In Governor's Hands

ST. PAUL—Minnesota's new feed bill was expected to be signed April 3 or 4 by Gov. Orville L. Freeman after being passed by the Senate and House with "no difficulty," it was reported this week by R. E. Bergman, Minnesota state feed and fertilizer control official.

Main purpose of the bill, said Mr. Bergman, "is to eliminate the use of inspection tags and stamps." The bill provides that feed manufacturers report their tonnages each quarter.

Included as a requirement for the first time are tonnage reports from prime ingredient suppliers.

Other changes also were made.

The bill's format follows recommendations of the Association of American Feed Control Officials and the American Feed Manufacturers Assn.

R. E. Lungstras Named Elam Vice President

ST. LOUIS, MO. — Robert E. Lungstras has been elected vice president of the Elam Grain Co., St. Louis, supplier of a line of grains and soft feeds.

The announcement came from Edward S. Deibel, Elam president, who said Mr. Lungstras has had some 22 years of experience in the grain and feed industry. The new vice president was associated with Dixie Mills Co., East St. Louis, manufacturer of poultry and livestock feeds for 17 years, the last five of which he served the company as president.

For the past five years Mr. Lungstras has been at the St. Louis Merchants' Exchange as a consultant and in grain and feed merchandising.

Elam has a 2,500,000 bu. storage capacity elevator in St. Louis.

'Little' Support Gained For N.H. Poultry Lab

CONCORD, N.H.—Perley I. Fitts, New Hampshire commissioner of agriculture, reports that he has had little success in gaining legislative support for the poultry diagnostic laboratory at the University of New Hampshire in Durham, N.H.

The situation was revealed in an address by the commissioner at a Merrimack County poultry meeting recently in Concord.

He pointed out that economy-minded legislators are reluctant to appropriate the requested funds for the laboratory, despite the fact that the poultry industry is still the leading agricultural enterprise in New Hampshire.

For a number of years, the diagnostic work has been financed from revenue received from the pullorum testing program but now, due to the decreased numbers of hatching egg birds, there may not be enough revenue to maintain both projects.

Newcastle Control Measures Outlined By Georgia Group

ATHENS, GA.—Measures for controlling Georgia's current Newcastle disease outbreak have been recommended by the Georgia Poultry Disease Workers organization, according to a publication of the University of Georgia College of Agriculture.

These measures, said the pamphlet, include:

1. Revaccinate breeders against Newcastle disease every four months.
2. Vaccinate young birds (breeders and broilers) as follows: 12-14 days of age—ocular, intranasal or intramuscular; four weeks of age—individual or mass vaccination. (Warning: "Mass vaccination must be properly administered.")
3. Vaccinate replacements at four months of age and every four months thereafter.
4. Along with these Newcastle disease vaccination recommendations, infectious bronchitis and fowl pox vaccinations should be worked in as they have in the past.
5. Use only vaccines that are licensed for sale in Georgia and use them with "deliberate care."

Three causes of the Newcastle outbreak were listed by the organization: (1) Possible improper administration of vaccines, (2) vaccines may not be potent at the time of administration and (3) inadequate isolation of flocks and disposal of dead birds.

Fire Destroys Building At Dehydrating Plant

NICKERSON, NEB. — An early morning fire April 2 virtually destroyed the grinding and pelleting building of Transco Feed Products, Inc., here. Believed to have started from the electrical wiring, the blaze quickly consumed the building but left the cyclone collectors standing. Extent of damage to the pellet mill and hammermill had not yet been determined. The loss was covered by insurance.

Reconstruction of the facility started April 3 and is expected to be completed before the start of the alfalfa dehydrating season, usually around May 10 in this area. The dehydrating plant is owned by Thomas J. Mateer and Harold E. Clark.

Merck Announces 25% Cut in Lysine Price

RAHWAY, N.J.—A 25% reduction in the price of lysine monohydrochloride has been announced by Merck & Co., Inc., chemical division, Rahway. The new price is $6 lb., compared to $8 most recently quoted.

Company officials state that the lower price and increased research interest in lysine will lead to an expanded market for this nutritional supplement.

Lysine "offers a great potential in raising the nutritional value of poultry and livestock feed supplements," Merck emphasized. This amino acid is used by cereal manufacturers, specialty bread bakers and the pharmaceutical industry in nutritional supplements and vitamin formulations.

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Are you wasting phosphorus?

- ☐ with out-of-date feeding recommendations
- ☐ over-fortifying with phosphates of low availability
- ☐ adding unnecessary margins of safety
- ☐ with too wide a calcium-phosphorus ratio
- ☐ assuming that all chemically processed phosphates are alike
- ☐ assuming that phosphates of inferior quality are satisfactory under "practical" conditions

Performance of today's poultry and livestock feeds simply leaves no room for phosphate sources that don't carry their full share of the nutritional load. Also, the end result of wasting phosphorus is a boost in formulation costs.

Yet the check list above indicates a number of ways that feed manufacturers may be wasting phosphorus.

Take for example, feeding recommendations based on phosphates that have been proven to be of low availability. Chemically processed dicalcium phosphates with proven high availability make such recommendations out-of-date.

These modern phosphates eliminate the need to over-fortify with phosphates of low availability. There's no need to add unnecessary margins of safety for inferior phosphates.

Important too, dicalcium phosphates are low in calcium. They end the problem of using phosphorus sources that contain excess calcium and hinder feed performance with too wide a calcium-phosphorus ratio.

Dynamic DYNAFOS delivers more available phosphorus in every pound

International's Dynamic DYNAFOS is a chemically processed dicalcium phosphate that delivers proven high biological availability and is low in calcium.

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R. D. ERWIN COMPANY, Nashville • CHAS. F. WILLEN CO., INC., Birmingham (Ala.) • STANDARD SALES COMPANY, Meridian (Miss.)
THE VITA PLUS CORPORATION, Madison • **MIDWEST AREA:** BLOMFIELD-SWANSON, Minneapolis • W. P. MANN SALES CO., Omaha
M. A. McCLELLAND COMPANY, Kansas City (Mo.) • B. A. LUCIUS COMPANY, Fort Worth • **WEST COAST:** JAMES FARRELL & COMPANY, Seattle
JAMES FARRELL & COMPANY, Compton (Calif.) • **CANADA:** N. D. HOGG LTD., Toronto

Year's Soybean Meal Output Expected To Top 1957-58 by 1.1 Million Tons

WASHINGTON—With demand for soybean meal through the rest of the current feeding year appearing as though it will remain at peak levels, the U.S. Department of Agriculture has reported that production for the entire year (October, 1958-September, 1959) is now expected to total 9.4 million tons, about 1.1 million tons above last year.

The 1958-59 cottonseed crush, said USDA, may total 4,400,000 tons, about 150,000 more than for the 1957-58 season. But flaxseed crushings through June probably will continue slightly below last year and total about 23 million bushels for the 1958-59 season—approximately 4 million less than last season.

Soybean meal demand, said the USDA, will probably be held up by increases in livestock and poultry production and a slight rise in the feeding rate of protein feeds per animal unit.

Production of soybean meal has been at a record level since early in 1958, exceeding 750,000 tons in most months. Stocks of soybean meal at processing plants at the end of February, 1959, totaled 88,000 tons compared with 73,000 a year earlier, USDA reported.

Prices of soybean meal April-September are expected to be relatively more stable and average somewhat lower than the $60 ton in the same six months of 1958.

Crush Record Expected

Soybean crushings for the entire 1958-59 season, according to the USDA, probably will set a new record of about 400 million bushels compared with 354 million last year. A crush this size would produce about 4,250 million pounds of crude soybean oil, about 450 million more than in 1957-58, and about 9.4 million tons of soybean meal, approximately 1.1 million above last year.

Soybean crushings this past January reached an all-time monthly high of 36.7 million bushels, more than 2 million bushels above December, 1958, the previous peak month, and almost 6 million above January, 1958. The USDA said most of the impetus to the heavy crush is coming from the strong domestic demand for protein feeds together with high takings of edible oils.

The availability of large supplies of soybeans at lower prices is encouraging heavy exports this season, the USDA said. U.S. exports for the entire 1958-59 marketing year probably will reach a record of at least 90 million bushels, according to USDA expectations. About 85 million bushels were shipped in each of the two preceding seasons.

Based on these estimates of crushings and exports, the carryover of soybeans Oct. 1, 1959, is expected to rise to about 75 million bushels, 55 million above a year earlier. Virtually all of the carryover of old crop beans will be in the hands of the Commodity Credit Corp., the USDA fats and oils situation report said. Commercial stocks of beans will be reduced to a minimum because of the 24¢ drop in the 1959 soybean support price.

The price spread during the remainder of the marketing year between the farm price for soybeans and the market value of the products per bushel of soybeans crushed is expected to average somewhat less than the 44¢ bu. during October-January, 1958-59, reflecting the slight increase anticipated in soybean prices and slightly lower prices for soybean meal. Conversely, the grower's share of total product value is likely to edge up.

During the past two marketing years the price spread averaged 33¢ bu. The grower received $2.13 bu., which represented 86% of the total product value.

Cottonseed Prices

Cottonseed meal prices are expected by the USDA to continue relative-

(Turn to SOYBEAN, page 102)

Missouri Livestock Day Set for April 10

COLUMBIA, MO. — The program for the University of Missouri Spring Livestock Day, April 10, is to feature latest information on research findings in livestock production, feeding and management, according to Dr. A. J. Dyer, chairman, animal husbandry department.

Guest speaker for the event is to be Harold F. Breimyer, Agricultural Marketing Service, U.S. Department of Agriculture. His subject will be the 1959 price outlook.

The morning program is to start at 9:45 in the livestock pavilion on the University campus, where some of the animals being used in feeding and breeding experiments may be seen.

The afternoon program is to be at Jesse Auditorium.

Feeder Pig Sales

COLUMBIA, MO.—More than 51,000 feeder pigs are to be offered for sale in Missouri sale rings during April and early May, according to Prof. Glenn Grimes, extension livestock marketing specialist, University of Missouri. He said a total of 23 feeder pig sales have been scheduled, with 16 of the sales being held in cooperation with the Missouri Agricultural Extension Service. All pigs will have been vaccinated against cholera before sale time and were described by Prof. Grimes as being "well-bred, thrifty, good-doing" animals raised on farms in areas surrounding sale locations. The pigs range in weight from 30 to 125 lb.

NEW OFFICERS—At a meeting held in conjunction with the 14th annual conference of the Distillers Feed Research Council in Cincinnati these men were elected officers. They are (from left): Dr. Lawrence E. Carpenter, DFRC executive director; Walter Devlin, the Fleischmann Distilling Corp., first vice president; George M. Brinker, National Distillers Products Co., president; C. Paul Eberhart, Schenley Distillers, Inc., second vice president, and Howard T. Jones, Distilled Spirits Institute, executive secretary.

Interstate Conflict Accompanies Battle With Khapra Beetle

Interstate political conflict of a minor degree has emerged as one of the unexpected results of the Texas and New Mexico battles against the khapra beetle.

After announcing that it was his understanding that the Texas Legislature had been "dragging its feet on khapra beetle control in Texas," New Mexico's governor, John Burroughs, remarked in Santa Fe, "We think that Texas will do all it can to control the situation." He said he had no intention of taking "punitive" action against Texas, but that he would take whatever measures were necessary to protect New Mexico farmers.

Gov. Burroughs had said earlier that he believed New Mexico should "consider the advisability of closing our southern border to importations from Texas unless they take immediate action."

This threat brought quick reaction from Judge Woodrow Bean of Texas' El Paso County, which is under state quarantine and where fumigation of products which may harbor the khapra beetle is required. Judge Bean sent telegrams to Price Daniel, governor of Texas, and John White, state agriculture commissioner, urging "immediate action" to protect grain exporters from possible embargo. Judge Bean's wire said, in part: "Several weeks have passed since the beetle infestation was discovered and no action was taken by the Texas Agriculture Department."

Answers Charge

Commissioner White countered this charge by saying Texas "has strict control" over khapra beetle infestations and contrary reports are "completely erroneous and without knowledge of the situation." Mr. White said the infestation of the beetle is limited to El Paso County, which is under quarantine.

"Although this is the state's first khapra beetle infestation," Mr. White said, "the program is under complete control. Several years ago, New Mexico had the same problem and we cooperated with them on it even though we had no khapra beetle infestation of our own. We feel we deserve the same cooperation for our grain industry that we have shown our neighboring states."

Mr. White said that 13 state employees, together with federal inspectors and entomologists, are "strictly supervising" all movement of grain. According to the commissioner, no khapra beetles have been found outside the quarantine area.

There were reports that fumigation equipment has been rushed into El

(Turn to KHAPRA BEETLE, page 102)

International Feed Conference Set

WASHINGTON — Greater use of U.S. feedstuffs in Europe is the goal of an international feed conference to be held in Washington May 4-6.

Sponsored by the U.S. Department of Agriculture and the Soybean Council of America in cooperation with other private organizations, the conference will be part of a market development program designed to promote U.S. feedstuffs.

Participating will be representatives from most countries in western Europe and U.S. experts in feeding and animal nutrition. It is reported that the Foreign Agricultural Service has lined up several feed industry experts in the U.S. to explain the U.S. industry and to answer questions the visitors may ask.

Following the conference, the visitors will take a field trip through the Midwest. The trip will include visits to land grant institutions, federal and private laboratories, packing plants and feed manufacturers.

Iodinated Casein Said to Improve Duck Performance

ITHACA, N.Y.—Cornell University researchers have reported on experiments in which supplementation of a practical duck ration with iodinated casein (Protamone) promoted improved growth, feathering and market finish and decreased carcass fat content.

"It appears from these results," the scientists said, "that the use of iodinated casein in rations for market ducklings can be recommended, subject, of course, to approval by the Food and Drug Administration."

(In Washington, a Food and Drug Administration spokesman said that the agency was satisfied as to the safety of use of Protamone in feeds for ducks and that it may be used by feed manufacturers in duck feeds at a level of 100 gm. per ton. The product is not classed as a new drug in the use in feeds for ducklings.)

The research with iodinated casein in feeds for ducklings was reported in a recent issue of "Cornell Feed Service" by M. L. Scott, R. C. Baker and E. Dougherty of the department of animal husbandry and the New York State Veterinary College at Cornell.

Six Experiments

They pointed out that six experiments have been conducted during the past year to determine the effects upon growth, feathering and carcass composition produced by supplementing the diet of White Pekin ducklings with low levels of iodinated casein. The experiments were conducted at the Duck Research Farm, Eastport, Long Island, N.Y., in cooperation with the Long Island Duck Research Cooperative, under conditions similar to those prevailing on a typical Long Island duck farm. The total number of ducks in each of five treatments was in the neighborhood of 500.

(Turn to IODINATED CASEIN, page 102)

Northwest Group to Hear Talk on Japan

MINNEAPOLIS — Ralph Van Hoven, Van Hoven Co., St. Paul, Minn., president of the National Renderers Assn., will present a talk on his recent trip to Japan at the regular meeting of the Northwest Feed Manufacturers Assn. April 6 at the Calhoun Beach Hotel here.

His talk, "A Businessman Visits Japan," is one of two features planned for the meeting. The second is the attendance at the meeting of the six University of Minnesota agricultural science students who are continuing their studies with scholarships provided by the association.

Mr. Van Hoven was representative for the U.S. Department of Agriculture in a mission to Japan last year to show the uses of animal fats.

The six scholarship holders will be guests of the association along with representatives of the college. The students have been invited to attend so that members of the association will see better how the scholarship program is being used to help students, and the students will have an opportunity to visit feed men and learn more about the feed business.

The social hour starts at 5:30 p.m., and dinner will be served at 7 p.m.

Soybean Oil Sale

WASHINGTON—The U.S. Department of Agriculture has announced issuance of two authorizations to Yugoslavia under Title I of Public Law 480 providing for purchase of a total of up to $1,741,555 worth of soybean or cottonseed oil. The authorizations are issued to reprogram unused balances from authorizations previously issued to Yugoslavia.

Proposed Molasses Grading System Called 'Impractical'

MINNEAPOLIS — A government market research report which recommends that molasses marketed for livestock feeds be identified according to the amount of moisture and carbohydrate present drew criticism recently from a molasses company executive.

Albert A. Teeter, Jr., vice president of the Industrial Molasses Corp. (midwest division), Minneapolis, who represents the molasses industry in meetings of the purchasing agents committee of the American Feed Manufacturers Assn., said the report is "impractical from the standpoint of the producer, the distributor and, for that matter, the buyers themselves."

The report, U.S. Department of Agriculture marketing research report No. 302, "Factors in Developing Grades and Standards for Blackstrap Molasses for Feed," is from a study made by the Texas Agricultural Experiment Station, College Station, under contract with the USDA.

Mr. Teeter outlined his objections in a recent letter to E. A. Epps, Jr., chief chemist for the Louisiana Department of Agriculture and Immigration, and he expanded on his comments further in a memo. Copies of the letter and the memo were sent to "persons interested in developing standards on molasses."

Proposed Guides

Using moisture and carbohydrate as the basis for setting molasses grades, the USDA report suggested these guides or possible grades for blackstrap:

"It is suggested that the term 'blackstrap' be used solely for cane molasses and that molasses from other sources be labeled to identify the source and the amounts of water and total sugar present.

"The following guides or possible grades for blackstrap are recommended:

"1. Superior Blackstrap—Cane molasses containing 23.4% or less water and 53.5% or more total sugar . . .

"2. Blackstrap—Cane molasses containing 23.5% to 26.4% water and 48.5 to 53.4% total sugar . . .

"3. Utility Blackstrap—Cane molasses containing 26.5% or more water and 42.5 to 48.4% total sugar . . .

"The data indicate that any product containing less than 42.5% sugar and 26.5% or more water is a mixture. It is recommended that such a mixture be labeled to identify its source and its moisture and sugar content."

The report indicated that carbohydrate is by far the most important nutrient in molasses and should be included in any measure of quality. It said that moisture content is critical in the control of spoilage in mixed feeds and should also be included in measuring quality.

In the past, degrees Brix has been the only measure used to evaluate the quality of blackstrap. This unit measures the specific gravity of a solution. For pure sucrose solutions, it expresses the percentage of sucrose in a solution.

The USDA report says that in a crude product like feeding molasses, compounds such as lipids, proteins, inorganic salts, waxes, gums and many other materials affect the degrees Brix in proportion to the amount of these materials present. USDA said representatives of the molasses industry have reported that this measurement is less accurate as a measure of sugar in molasses produced in recent years, largely because of the increase in fertilizing and irrigation in the sugarcane-producing areas.

The tentative definition for feeding cane molasses given in the official publication of the Association of American Feed Control Officials for 1958 stated that the total sugar content expressed as invert sugar "is

(Turn to MOLASSES, page 102)

Toll Crushing Program For Flaxseed Outlined

WASHINGTON—The U.S. Department of Agriculture has announced a crushing program for Commodity Credit Corp.-owned flaxseed "to help relieve the tight grain storage situation in the northern Great Plains area." The program will begin in April.

It was revealed last week that the Commodity Stabilization Service would ask CCC to approve a toll crushing contract. (Feedstuffs, page 6, March 28, 1959.)

Under the program, processors will submit competitive bids (1) offering CCC linseed oil and (2) bids offering CCC linseed oil and linseed meal. Processors will purchase CCC-owned flaxseed at the support price. This price, $3.09 bu. for No. 1 flaxseed, Minneapolis or Duluth, will be in line with CCC's announced selling price through July 31.

Processors will deliver to CCC within a limited period a quantity of linseed oil equivalent to flaxseed purchased (20 lb. oil per bushel of flaxseed), or the linseed oil and meal, depending upon the bids accepted by CCC. CCC's buying price for the linseed oil or the linseed oil and meal will be each processor's successful bid price.

The Minneapolis Commodity Stabilization Service commodity office will handle the flaxseed crushing program. Periodic bids will be requested involving moderate quantities of flaxseed.

The action is designed to reduce the storage needs for flaxseed in the northern flaxseed-producing area where some storage difficulty is anticipated during the current price-support takeover of 1958 crops.

Slight Reduction in Egg Set Reported; Still 10% Above '58

SALISBURY, MD.—Over 50 million eggs were set last week by hatcheries across the nation, and about a fifth of these were set in Georgia.

Hatcheries in the 22 reporting states set 50,688,000 eggs. Georgia set 10,030,000. The national set was 1% less than the previous week, but 10% above the corresponding week a year ago.

Decreases in the number of eggs set from the previous week were reported in 15 of the 22 states. The sharpest decreases from the previous week occurred in Indiana, Maryland and Missouri.

Broiler growers last week placed 36,603,000 chicks. This figure was 1% more than the previous week, and 21% above the corresponding week a year ago. The largest increases from the previous week occurred in Texas, Delaware, Alabama and Georgia.

The price of broilers in Delmarva fell 1¢ lb. last week. Prices on the farm averaged 16.92¢ compared to 17.95¢ the previous week.

The lower price of broilers is perhaps responsible for a reduction in birds leaving the farm. Producers sent 3,037,000 broilers to market during the week ending March 28. This was 6% less than the previous week, and 15% less than the corresponding week of 1958. Marketings were 80% of the number of birds started nine weeks earlier.

PURINA DIVIDEND

ST. LOUIS—The board of directors of Ralston Purina Co., St. Louis, recently declared a quarterly dividend of 30¢ a share on common stock, payable June 11, 1959, to shareholders of record May 21, 1959.

Georgia Broiler Exchange Opens; Prices Hit 17.3c

By Special Correspondent

GAINESVILLS, GA. — Sales totaled 243,000 broilers at the first day of operation at the newly-organized Georgia Poultry Exchange, with prices ranging from 15 to 17.3¢ lb., slightly higher than other quoted prices.

Tom Hodge, manager of the exchange, reported that a total of 254,000 broilers was offered — many from middle and southern Georgia—with a 9,000 house from Blackshear, Ga., in southern Georgia, topping the offering at 17.3¢. Average price for all birds sold was 16.697¢.

Mr. Hodge added that of 38 buyers who have received credit approval of the exchange, 30 were on hand for the first day's bidding, with virtually all sections of Georgia represented, in addition to buyers from processors in the Gainesville area. Buyers from Jacksonville, Fla., also bid on the offerings.

The exchange manager said that dealers belonging to the exchange have pledged "about 2.5 million broilers a week" and declared the first day's operation was "highly satisfactory."

Broiler prices listed by local newspapers in Georgia were 15-16¢ at the farm, with no volume posted.

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STANDARD BRAND PULVERIZED WHITE OATS
DAIRY BRAND COARSE GROUND OATS
CRESCENT BRAND PULVERIZED OATS
CORN OATS PELLETS (Corn-Oats)
MIXERS' PULVERIZED OATS
MIXERS' COARSE GROUND WHITE OATS
MIXERS' PELLETED OATS
APEX BRAND CRIMPED WHITE OATS
OAT FEED
STEAM ROLLED WHOLE BARLEY
GROUND BARLEY
PEARLED BARLEY FLAKES (Max. 2½% fiber) (steamed processed)
GLENWOOD PEARLED BARLEY
STAR CRACKED PEARLED BARLEY
STEEL CUT WHEAT
ACME GROUND DOMESTIC FLAX SCREENINGS

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Poultry Auction Being Planned In Arkansas

SPRINGDALE, ARK. — A live-poultry auction, similar to ones operated in the Delmarva and North Georgia areas, will be established here within a few weeks.

A six-member steering committee representing feed dealers and poultry processors in Northwest Arkansas this week announced plans to organize and operate an auction here.

Thad Hale, operator of the Hale Processing plant at Siloam Springs, Ark., said the name of the proposed auction will be the Arkansas Poultry Exchange, Inc. Mr. Hale said the committee will meet here again April 9 to discuss and formulate more fully plans for the facility.

The poultry processor said the auction "will provide a premium price for quality birds, provide prompt payment for poultry sold, remove the dependence of the poultry producer on the processor, relieve processors of the burden of negotiations and provide wider selection for processors."

The steering committee is composed of Wes Field of Berryville, president of the Arkansas Poultry Processors Assn.; Mr. Hale and Bob Yockey of Rogers, representing the poultry processors, and E. D. Wilmoth of Decatur and Tom Hagen and Don Tyson of Springdale, representing the feed industry.

Boston Exchange Alters Meeting Date Provision

BOSTON — The Boston Grain & Flour Exchange recently voted to amend its bylaws to provide that "the annual meeting will be held during the first 15 days of February each year—the exact date to be set by the board of directors at least eight months prior to the meeting."

Previously, the annual meeting and election has been held on the first Tuesday in February, and in recent years the annual banquet, now commonly known as "The Boston Tea Party," has been held on the Thursday evening following the election.

The reason given for the amendment was that for the last two years, other allied organizations have held meetings at a similar time during the first week in February.

John P. Brooks, exchange president, said the change will allow for more flexibility in scheduling the annual banquet, and will avoid conflicts with other meetings, thereby enabling more to attend the Boston meeting.

Mr. Brooks said also that at a recent meeting of the board of directors, it was unanimously decided to hold the next annual meeting and election of officers on Feb. 10, 1960, and the annual banquet on Feb. 11, 1960, at the Sheraton-Plaza Hotel in Boston.

Gerard Roy, secretary of the exchange, reported that 15 new members have joined the exchange since Jan. 1, 1959.

Drew & Co. Appoints Pacific Coast Manager

NEW YORK—John M. Hagerty has been appointed general manager of the Pacific Coast operations for all divisions of E. F. Drew & Co., Inc., New York, it was announced by D. A. Coape-Arnold, executive vice president of the firm.

Mr. Hagerty will continue as national sales manager of the agricultural division of the company.

It was pointed out that the firm had recently acquired two manufacturing plants in California—Malaga Oil Products Division, Lindsay, Cal., and Strathmore (Cal.) Vegetable Oil Products Co., Inc.

BROILER COUNCIL OFFICERS—Shown are the 1959 officers of the National Broiler Council. They are (left to right): Frank Frazier, Richmond, Va., executive vice president; Henry Saglio, Glastonbury, Conn., vice president at large; Bob Schram, Peru, Ind., second vice president; Don Corbett, Waterville, Maine, president; Ray Firestone, Troutville, Va., first vice president, and Bill Simmons, Siloam Springs, Ark., vice president. Another officer, Ralph Cleveland, treasurer, Gainesville, Ga., is not in the picture. The officers were elected at the recent National Broiler Industry Conference in Dallas, sponsored by NBC.

New England Dairy Feed Conference Set April 16 in Boston

BOSTON—A New England Dairy Feed Conference designed primarily for small feed manufacturers will be held April 16 at the Hotel Lenox here, Dr. Stanley Gaunt, University of Massachusetts, chairman of the arrangements committee, has announced.

It is the first New England-wide dairy feed conference to be held, he said.

"The always pressing need for the 'facts' has accelerated in recent years with the increase in specialization, competition for products and services and introduction of new feed additives," Dr. Gaunt said. This conference is sponsored in cooperation with six New England land grant colleges to present these "facts."

Dr. Lane Moore, chief of the dairy research branch of the U.S. Department of Agriculture, will discuss the merits of using antibiotics, hormones, vitamins and the like in dairy rations. Dr. Harry Keener, director of the New Hampshire Experiment Station, will speak on minerals.

The morning session will open with Dr. Niels Rorholm, head of the department of agricultural economics at the University of Rhode Island, speaking on the "Outlook for Feed and Milk." He will be followed by Dr. A. M. Smith, University of Vermont, speaking on "What Is a Good Ration?" and J. G. Archibald, University of Massachusetts, speaking on "The New England College Grain Ration."

The program has been planned to allow time for questioning the speakers.

Pillsbury Stockholders Vote 2-for-1 Stock Split

MINNEAPOLIS — Stockholders of the Pillsbury Co., Minneapolis, have voted approval of a 2-for-1 split of the company's common stock.

The vote authorized a change of each share of $25 par value common stock into two shares without par value, and an increase in the number of shares authorized from 1.5 million to 3 million. The change will become effective April 7.

Philip Pillsbury, chairman of the board of directors of the company, commented: "The stock split will bring Pillsbury common stock into a more popular price range, stimulate trading and broaden our financial base."

An increased dividend of 35¢ per share on the split stock will be payable June 1. Pillsbury currently has 1,044,285 shares of common stock outstanding.

CDP Increased To 18% Phosphorus

NORFOLK, VA. — Coronet Defluorinated Phosphate (CDP) was increased in analysis to 18% phosphorus, effective April 1, the Coronet Phosphate Co. announced this week from its Norfolk headquarters. CDP has previously been a 17% product.

Henry Highton, feed phosphorus sales manager, said that 18% CDP "means that feed manufacturers will benefit from a lowered delivered cost per unit of phosphorus."

The new analysis guarantees 31% minimum and 34% maximum calcium, with .18% maximum fluorine. Screen guarantee is all through 14 mesh; 80% on 200 mesh, plus or minus 5%.

"The analysis of Coronet Defluorinated Phosphate has moved upwards in recent years from 8.5 to 17%, which was the guaranteed analysis until the increase on April 1 to 18%," Mr. Highton said. "In the new higher analysis, CDP maintains its proven biological availability."

Soybean Meal Futures Reach Season Highs

MEMPHIS—Oilseed meal futures gained on the Memphis Board of Trade this week.

New season highs in all positions of soybean oil meal, both old and new crop months, developed as the demand increased for formula feeds. Better feed business influenced an attendant soybean oil meal demand.

One pit observer said that reports of the possibility of some curtailment of crush tended to restrict selling interest in proteins, while trade and speculative interests predominantly worked on the constructive side of the market.

The international situation, said the observer, continued to be such as to keep most traders cautious.

Unrestricted soybean oil meal closed April 1 50¢ to $1.15 ton higher than on March 25, Eastern Trunk Line soybean oil meal unchanged to $1.50 higher, bulk solvent cottonseed oil meal 15¢ to 50¢ higher, and sacked old process cottonseed oil meal unchanged.

Feed Tech Advisory Group Sets Meeting

KANSAS CITY—The Feed Technology Advisory Committee will meet during the convention of the American Feed Manufacturers Assn. in the Conrad Hilton Hotel, Chicago, May 12. The meeting is scheduled for 8 a.m. in Room No. 1. It will be a breakfast meeting, according to an announcement by Jack Blanke, Blair Milling & Elevator Co., Atchison, Kansas, secretary-treasurer of the committee.

Washington Co-op Criticized by Oregon Association

PORTLAND, ORE.—Comments on the entry of the Washington Cooperative Farmers Assn., Seattle, into the Oregon market were brought out this week by a series of articles published in a Portland newspaper, The Oregonian.

Answering the newspaper's presentation of the situation as being trouble "between the empire-building Washington co-op and a group of smaller but strong Oregon cooperatives," Russ Hays, manager, Oregon Feed & Seed Dealers Assn., said in a letter written in behalf of the Oregon group, "The truth of the matter is, however, that the battle is between the Washington co-op and the entire Oregon agriculture industry, both cooperatives and independents."

The Oregon organization says it believes that the Washington co-op's entry into the Oregon market "affects the entire industry in the state, and the move is one which could result in near complete domination of the local industry by the Washington organization."

Mr. Hays' letter to Joe Bianco, agriculture editor, The Oregonian, said, "As an industry, we of the Oregon feed trade believe that the Washington co-op has every right to enter the Oregon trading area. We also believe, however, that its entrance should be on a basis of free and fair competition and efficiency."

Statement Disputed

The Oregonian quoted Russell Rathbone of the Washington co-op as saying, "If the Oregon cooperatives had performed a rounded service for their members, we would never be in Oregon."

Mr. Hays' letter commented on this as follows: "It is the opinion of the trade that the Oregon cooperatives and independent processors were doing a good job of processing and marketing, and certainly since the Washington co-op has entered the Oregon

(Turn to OREGON, page 101)

Feed Men View Film On Stretchable Paper

MINNEAPOLIS — Representatives of the feed industry were among some 75 guests of West Virginia Pulp & Paper Co. at a dinner April 1 at the Minneapolis Athletic Club.

A kinescope of the closed television broadcast from Charleston, S.C., to the recent National Packaging Forum in Chicago was shown following dinner. The film described the process for making Clupak stretchable paper from which Wonderwall bags are made. Also shown were laboratory procedures used to demonstrate the toughness of the paper.

Tom Jones, regional general sales manager of the company's multiwall bag division, New York, said that Clupak has demonstrated that bags made from it "will withstand two to three times more punishment than comparable bags made of regular kraft paper."

Other company representatives present were Sheldon Carnes, regional general manager of the multiwall bag division, New York; Gene DuBois, district sales manager, Minneapolis, and Ambrose McCarthy, Norman Hansen and Warren Finberg, sales representatives.

Pig Sales in Kentucky

LEXINGTON, KY.—An estimated 10 000 feeder pigs are to be sold in a series of 10 Kentucky feeder pig sales this spring, Zack C. Saufley, Kentucky marketing specialist, has announced. Last fall, when the first organized sales were held, 2,500 high quality feeder pigs were sold at an average weight of 56 lb., bringing an average of $31 cwt.

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Applied Genetics

The Chas. Vantress program of Scientific breeding work includes Pure Line progeny testing and a pedigree Cross-Bred progeny testing program. This is just one phase of our program of applied genetics, designed to serve the Broiler Industry's progressive requirements.

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5 Chicks are carefully graded at our distribution plants. Every care is exercised to follow up our program of producing the best to see that you receive only the best.

6 Your shipment of Vantress Dominant White Male Line Cockerels is your assurance of top production efficiency and consumer quality.

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DULUTH, GEORGIA

Report Tests with New Enzyme Product In Cattle Feeds

MILWAUKEE — Results of tests conducted to determine the effect of a new feed additive, which contains three enzymes, on cattle have been announced by the manufacturer, which reported that the enzymes in the product help the animal "extract increased food values from feed."

The enzyme product is now being marketed by the Pabst Brewing Co.

Dr. James W. Brooks, manager of Pabst's animal feed department, reported that the enzyme feed fortifier has, in tests on several Iowa Corn Belt farms, effected weight gains in beef cattle of "as much as 18%," while reducing feed requirements by 16%.

The product, Zymo-Pabst, contains protease for protein digestion, amylase for starches and gymase to help break down plant gums, Dr. Brooks said. For testing purposes, he said, this "multiple digestive enzyme" feed additive was incorporated into commercial-type rations containing stilbestrol.

Test results showed that cattle feed with Zymo-Pabst produced an increase in average daily gain of 0.42 lb. per head compared to the same feed without the enzyme preparation.

At the end of a 54-day feeding period, cattle fed Zymo-Pabst averaged 22.73 lb. heavier per head than the control group. At the same time, Dr. Brooks said, the cattle fed Zymo-Pabst required 6.71 lb. feed per pound of gain compared to 7.34 lb. feed for the control group.

Zymo-Pabst, according to the manufacturer, also "has been used successfully to improve the nutritive value of poultry feeds containing high percentages of barley." Zymo-Pabst is suggested for use in poultry feed containing barley at the rate of 1 lb. per 1,000 lb. barley.

The additive has also been found effective, according to Pabst Brewing Co., in improving baby pig feeds formulated with soybean oil meal when used at the rate of 0.25% and 0.5%.

Dr. Brooks said Zymo-Pabst, for one thing, improves the nutritional quality of animal feeds by "supplying the 'gumase' lacking in the animals and enables them to digest the 'gums,' hence 'unlocking' additional nutrients." He said that farm animal enzyme systems are short on gumase, and are unable to digest the gums found in many plant feed ingredients. Microorganisms in the rumen of sheep and cattle produce gumase, but it is a slow process, Dr. Brooks noted. He also explained that Zymo-Pabst will not improve formulas which contain plant feed ingredients that are low or lacking in gums.

Dr. Brooks said further testing to determine whether the product has beneficial effects with respect to dairy cattle and sheep is under way.

Pabst, he noted, is one of the major producers of enzymes and coenzymes —complex bio-chemicals which are major factors in processes of the living cell. The enzymes are obtained by propagating "friendly" or beneficial micro-organisms in media or cultures upon which they readily thrive.

KENT FEEDS TRAINING SCHOOL—This group of dealers and dealer personnel participated in a training school on nutrition and selling given by members of the educational and scientific staff of Kent Feeds at Muscatine.

The men are (left to right): Front row—Joe Kral, Littrell's Hatchery & Feed, Iowa City, Iowa; Bob Cummings, sales trainee, Muscatine; Ed Willett, Carpenter Feed Store, Brooklyn, Iowa; Leslie Lyness, Fergesen Feed & Implement Co., Manchester, and Henry Poppe, Farmers Mutual Cooperative Creamery, Center Junction, Iowa.

Second row—Floyd Albaugh, Gamble Feed & Produce, Mechanicsville, Iowa; Bob Olson, Swisher Farm Supply, Swisher, Iowa; Dan Froning, Froning & Deppe, Ames, Iowa; Chuck Mueller, Mediapolis Feed, Grain & Supply, Mediapolis, Iowa; Louis Terrill, Kent Elevators, Muscatine, Iowa; Fay Kramer, F. J. Krob & Co., Walker, Iowa; Lorin Wilde, F. J. Krob & Co., Ely, Iowa; Don Jordon, Long Point Grain & Supply, Long Point, Ill.

Third row—Rodney Brannen, Kent Feeds, Inc., Muscatine, Iowa; Fred Miller, assistant territory supervisor, Manchester, Iowa; Gary Ridout, sales trainee, Marshalltown, Iowa; Marvin Carlson, Equity Cooperative, DeWitt, Iowa; Floyd Sackett, Co-op of Hudson, (Iowa); LeRoy Petersohn, Farmers Cooperative, Gilman, Iowa; Bill Marsau, Co-op of Hudson (Iowa); Ben Huber, F. J. Krob, Solon, Iowa; Madison Tonfeld, assistant supervisor, Iowa City, Iowa.

Grain Trading School Planned in Toledo

TOLEDO—The Toledo Board of Trade will hold a grain trading school April 18 at its quarters for 50 shippers from the adjacent area. The school will be held from 9:30 a.m. until 4:30 p.m.

Inspectors from the Toledo Board of Trade will be available to give all shippers individual attention and training, the announcement said. Included on the program is a film on the proper methods of sampling and inspecting wheat, corn and soybeans.

A. E. Schultz of the Board of Trade said response to the announcement of the school was so heavy that the board will schedule another at a later date. It was felt advisable, he said, to limit attendance at each school so that individual and personal attention could be given to all attending.

Reports on Experiment With Alfalfa for Hogs

DAVIS, CAL.—Alfalfa shouldn't be used in a hog ration except at a low level, according to Dr. Hubert Heitman, animal husbandman on the Davis campus of the University of California.

A 65-day trial in which alfalfa was fed at different levels to crossbred and Duroc hogs produced these average daily gains—5% alfalfa, 1.55 lb.; 20% alfalfa, 1.29 lb.; and 40% alfalfa, .88 lb.

"As the alfalfa was increased," said Dr. Heitman, "the hogs ate less of the meal and their weight gains went down. The net efficiency of the high-alfalfa meals was very low."

The hay used in the Davis trials was of good quality and contained up to 22% protein, but was not an efficient source of energy for swine, said Dr. Heitman.

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New Handling Systems Hike Efficiency at Illinois Mill

New handling systems installed in the Faultless Milling Co. plant at Springfield, Ill., are part of improvements which have doubled mill capacity while reducing production costs. New facilities provide for bulk ingredient handling, and automatic, electronically-operated batching and mixing.

Heart of the new materials handling operation is two pneumatic systems. Major new construction includes a 150-ft. storage and blending tower, built adjacent to the older mill. The new system is said to cut production time in half, and the change from bag handling to bulk saves $3 a ton in production costs. In addition, the area formerly occupied by bagged ingredient materials is now available for finished feeds. Faultless also estimates that one manhour per ton has been cut from handling costs.

The new handling system centers around two Airveyor (made by Fuller Co., Catasauqua, Pa.) units of the vacuum type. One unit serves the incoming railroad siding, unloading both box cars and covered hopper cars; the other serves a bulk truck unloading station and also transfers bagged ingredients and premixes from the older mill to the blending tower.

The Airveyor systems of the type used at Faultless consist basically of flexible metal hose at the pick-up point, a conveying line followed by a filter which removes the material from the air stream, and a positive displacement exhauster which creates the necessary vacuum.

Car Unloading

The car unloading system comprises a 7-in. hose, an 8-in. conveying line and a 125 hp. exhauster. The conveying line goes to the top of the 150-ft. blending tower to the filter which discharges the material by gravity to a screw conveyor for distribution to the bins.

An added feature of this system is a telescoping conveying line giving the operator push-button control of the flexible hose movements during box car unloading.

The car unloading system delivers to 24 of the 45 ingredient storage bins in the blending tower. These are peripheral bins. The transfer system delivers material to any of the 45 bins, but normally serves centrally-located storage bins and smaller holding bins.

Transfer System

For the transfer system there is a 5-in. line with three 25-ft. spurs. For bulk unloading, an intake nozzle is attached to one of the spurs. One operator is required for truck unloading. A smaller 75 hp. exhauster is used on the transfer system which is rated at 15 tons per hour of solvent soybean meal.

The 17 bins normally used in the transfer system are connected with a turnhead that is operated manually. The operator selects the desired bin by properly arranging the turnhead. The centrally-located bins receive material by gravity, the peripheral bins by a screw distribution system.

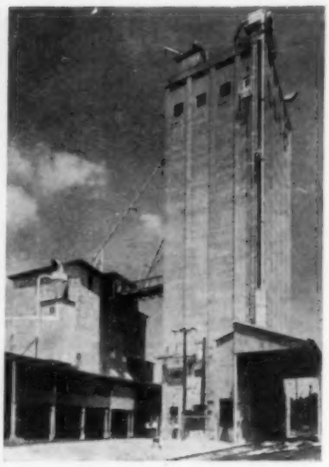
The transfer system receives bagged feed additives by means of a dump hopper to which one of the three nozzle spurs is attached.

Batching and Mixing

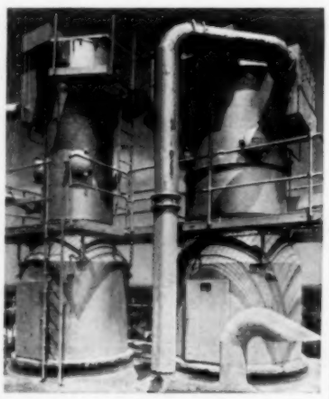
In the batching operation, feed is moved from the storage bins via screw conveyors into the scale hoppers. There are a 10,000-lb. automatic scale for major ingredients and a 500-lb. automatic scale for premixes and materials used in small quantities.

Batching and mixing are set up and controlled from a remote panel. There is a dial on the control panel for each of the 45 bulk storage bins. Fourteen dials control delivery to the 500-lb. scale. In another panel section, 31 dials control delivery to the 10,000-lb. scale. Ingredient material delivered to the scale hopper must equal a predetermined weight, thereby giving a check on the accuracy of the automatic delivery.

After weighing, the materials are dumped into the mixer. For temporary storage the material is withdrawn from the mixer and transferred to four bins of from 1 to 20 ton capacity. Four screw conveyors take the material from these bins to the older mill for further processing or packing.



NEW EQUIPMENT — Storage and blending facilities at Faultless Milling Co., Springfield, Ill., are housed in this new 150-ft. tower. Materials are unloaded pneumatically from box and hopper cars at the rate of 30 tons an hour through the 8-in. conveying line at the edge of the tower.



COLLECTORS — The material receiver or collector on the right is for box car unloading. The unit on the left is part of the transfer system recently installed by Faultless Milling Co., Springfield, Ill. Each unit houses a dust collector which provides a clean, dust-free operation. The two pneumatic systems have a combined capacity of 50 tons an hour.

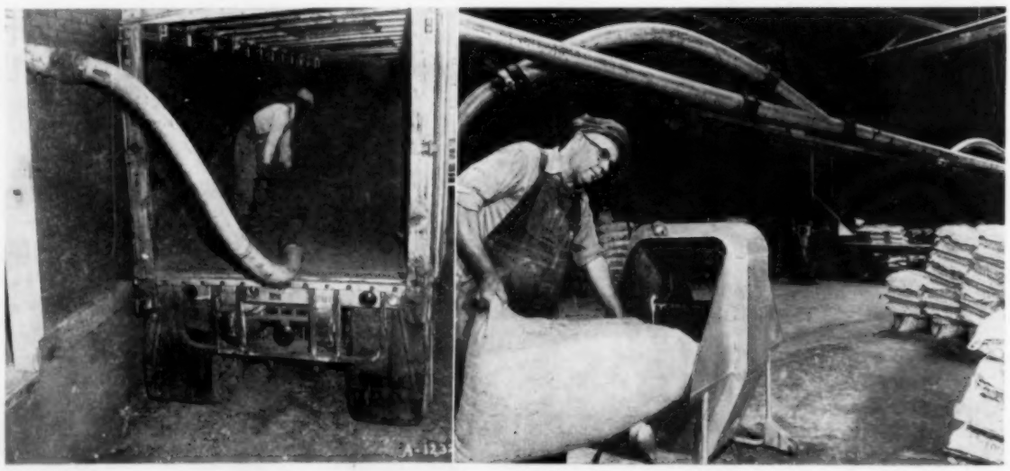
GEORGIANS BUY FEED WITH CREDIT CARDS

ATLANTA, GA — The credit card system may now be used to buy feed and other supplies in Atlanta.

When the Citizens and Southern Banks inaugurated a charge plan for customers recently, four feed concerns signed with them. Under the plan, customers having a credit card with the bank may make purchases and charge them. The bank sends one bill for all purchases at the end of the month.

The bank remits to the stores, less 6% for handling.

Feed firms participating in the plan are Lewis Feed Stores, Lewis H. Cottongin Seed Co., Glenwood Seed & Feed Store and Standard Feed Store.



PNEUMATIC HANDLING — With new bulk unloading equipment (first picture) installed at Faultless Milling Co., Springfield, Ill., loosened material is drawn through an intake nozzle to an Airveyor pneumatic conveying line that carries it to the top of a 150-ft. storage and blending tower where it is discharged to storage bins. A dump hopper (second picture) receives special bagged feed ingredients for pneumatic conveying. The overhead line is part of a system used for truck unloading and transfer of feed ingredients.

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Fact! The Early & Daniel Company is another important feed manufacturer sold on Baciferm zinc bacitracin antibiotic supplements. See for yourself: "We have been using Baciferm in a number of our feeds for some time. It has proven to be an excellent buy because we get maximum antibiotic effectiveness – and we get it economically. Baciferm also gives us a most stable form of antibiotic –zinc bacitracin. This means we get all the antibiotic we pay for–and so do our customers. On top of that, we get extra nutrient values with Baciferm in the form of bonus vitamins, protein and unidentified growth factors. From our standpoint, the buy most certainly is Baciferm."

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an intake nozzle to an Airveyor pneumatic conveying line that carries it to the top of a 150-ft. storage and blend-

part of a system used for truck unloading and transfer of feed ingredients.

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Feed for Thought

SOLUBLES AND THE SOLUTION

Most of our domestic animals and poultry come into this world completely equipped with built-in appetites. Turkey poults and the young of other species may need help getting started on feed, but generally this is only a temporary problem soon overcome by alert management.

When disease strikes, however, regardless of the age of the animal or bird, appetite usually wanes. This is critical because drugs which could promote recovery and antibiotics, vitamins, and other nutrients in feeds needed to build and maintain health are of no value until consumed and utilized.

While feed intake lags, water intake is usually maintained by the distressed livestock and may even be increased when disease strikes or stress conditions develop. Nutritionists have taken advantage of this phenomenon by providing therapeutic drugs in the drinking water. More recently, combinations of high level antibiotics and essential vitamins have also been added to the water to overcome this problem. Antibiotics and vitamins aid recovery by helping to maintain resistance to the primary disease or secondary infections often brought on by lowered resistance.

During its lifetime, short as it is, the average domestic animal or bird is confronted with many stresses; vaccination, castration, hormonization with pellets, shipping, dubbing, debeaking, and severe weather are occasions for administration of antibiotics and vitamins in the drinking water to offset lowered resistance.

Many problems face the manufacturer of a "water soluble" antibiotic-vitamin product. It should not contain material which will float and clog automatic watering systems or settle to form costly but ineffective sediment. The product should go into solution and suspension with a minimum of agitation. It should not settle out upon standing.

The product should remain stable for a reasonable amount of time after it is mixed with water and be palatable.

The development of this type of product requires careful selection of ingredients for solubility, compatability and palatability. Many of the components are purified forms and therefore costly. Most vitamin forms ordinarily used in feeds cannot be used.

Peter Hand has explored all of these problems thoroughly. If you are interested in a water soluble vitamin and antibiotic product which meets all your requirements, drop us a line today. Water soluble products of our manufacture are also available packaged under your own private label.

J. R. LINSNER
Director of Technical Services
PETER HAND FOUNDATION

Look for "Feed for Thought" every month. This popular column appears regularly in this same place (page 14) in the first Feedstuffs issue of each month.

Peter Hand

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UP OR DOWN

By Dr. Leonard W. Schruben, Agricultural Economist, Kansas State College

Watch for More Corn

It looks as if farmers intend to supply plenty of corn this year. Many people expected farmers to plant more corn this year than last. Not many were prepared for the 12% increase indicated in the intentions to plant report released March 18.

Farmers asked on March 1 what they intend to plant this year gave this answer: More acres to corn and barley and fewer acres to oats, soybeans, sorghums and hay. More details as to farmer intentions to plant are shown in Exhibit 1.

A comparison of farmers' intentions to plant spring crops with acres planted in former years is shown in Exhibit 1. Here you will notice that the big increase is in acres to be planted to corn. This was expected in light of the change in the corn program eliminating acreage allotments, lower supports for other crops and an end to the acreage reserve part of the Soil Bank.

It is interesting to try to visualize the size of the corn crop that could be produced on these acres. If last year's record yields are realized, the production of 4,250 million bushels would be possible. The previous record crop of 3,800 million was harvested last year. No one really expects 1958 average yield to be repeated again soon—yet it is possible. No one, including this writer, expected 1957 yields of grain sorghum to be duplicated in 1958!

On top of this big acreage, a record carryover of old crop corn is in prospect when harvest begins this fall. This carryover is expected to total about 1,800 million bushels. Thus a bumper yield on more acres could give us a total supply of corn of over six billion bushels for the crop year beginning Oct. 1, 1959. The present record of 5.3 billion bushels was set last Oct. 1.

To be sure, final plantings may not fulfill early intentions. Many things come up to cause farmers to change their plans. However, it isn't too early to start looking for a big corn crop and to make plans accordingly. With reasonable growing weather, there will be ample feed supplies for the foreseeable future even though livestock numbers are increasing. If a better than normal season develops, many farmers will get out the hammer and saw and start fixing up the old corn crib or building a new one.

EXHIBIT 1. U.S. Planted Acreage of Corn, Oats, Barley, Sorghum, Soybeans, and Spring Wheat, 1950-1959.

Year	Corn	Oats	Barley	Sorghum	Soybeans	Spring wheat
			(1,000 acres)			
1950	82,859	45,044	13,010	16,055	15,048	18,888
1951	83,275	41,015	10,790	15,028	15,176	22,379
1952	82,230	42,341	9,190	12,289	15,958	21,648
1953	81,574	43,220	9,615	14,590	16,394	21,844
1954	82,185	46,898	14,740	20,148	18,541	15,922
1955	81,097	47,523	16,335	23,979	19,658	13,951
1956	78,219	44,691	14,835	21,513	21,671	16,231
1957	73,947	42,577	16,535	26,959	21,912	12,384
1958	74,654	38,430	16,268	21,176	24,900	12,343
1959*	83,921	35,998	17,093	20,440	23,172	13,405

*Indicated on March 1 to be planted in 1959.

New York Farmers Urged to Raise Hogs

ITHACA, N.Y.—Farmers in New York are being urged by Dr. Ellis A. Pierce, Cornell University department of animal husbandry, to consider raising hogs to meet competition from the Midwest.

"Opportunities are best for central and western New York farmers," Dr. Pierce declared.

"Chances for successful hog farming in New York are enhanced by two important factors. The first being that the state's large packing plants are slaughtering many more hogs than are raised locally, with the balance being shipped in from the Midwest, and New York farmers are growing more corn to sell for cash to other farmers for livestock feed."

CO-OP BOOSTS BUSINESS

IOWA FALLS, IOWA — The Iowa Falls Farmers Cooperative Elevator Co. at its recent annual meeting reported business of $6,761,668.83 during the year, an increase of $1.5 million. The association has elevators at Iowa Falls, Bradford, Ackley and Macy.

Firm Moves Office

SAN FRANCISCO—H. L. Taylor-Walcott Co., manufacturer and seller of feed, feed concentrates and seeds, has moved its headquarters from 477 Brannan St. in the Fiberboard Corp. building to 900 3rd St. Herbert L. Taylor, the company's head partner, said the new office affords more space, better facilities and easier parking for customers and personnel. He said the move does not involve the company's plant operation at San Joaquin, Cal.

AUTOMATION DISCUSSION — Warren North (center), Brookston, Ind., farmer featured on the cover of Time magazine recently, talks about farm automation with officials of Central Soya Co., Fort Wayne, Ind., at a meeting of the company's advisory board. With Mr. North are (from left): Seated—E. E. Reynolds, director of Central Soya feed sales and chairman, advisory board, and Al Powell, credit manager and secretary, advisory board; standing—Dr. J. L. Krider, director, public relations, and Howard Watters, assistant to the president and retiring advisory board chairman.

Famed Farmer Speaks To Central Soya Group

FORT WAYNE, IND. — Warren North, Brookston, Ind., farmer, who was featured on the cover on Time magazine's recent issue highlighting farm automation, told the advisory board of directors, Central Soya Co., Fort Wayne, at a recent luncheon, "Automation is coming to agriculture! It has played a significant role in my efforts to work into a beef factory operation."

Mr. North, who can run 700 head of cattle through his beef factory at one time, takes "10 minutes twice a day to feed the cattle." He buys feeders at about 800 lb., selling them when they weigh around 1,200 lb. About once a week he sends a load of fattened cattle to market. In addition to cattle, he has a supplementary hog operation.

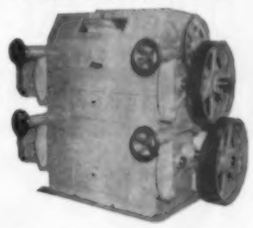
During the advisory board's day-long meeting, E. E. Reynolds was named chairman and A. J. Powell, secretary, according to an announcement by Harold W. McMillen, Central Soya board chairman. Both will serve one-year terms. Paul E. Hensel, W. E. Mann and Howard Watters were named to the advisory group's steering committee.

Under the advisory board's rotational plan, four new members are named each year and four members retire. New members appointed to four-year terms are: Paul Coolman, manager, finance and development department; Dr. Leo Curtin, assistant director, feed research, Decatur; Kenneth Robertson, chief engineer, Decatur, and Tom Suelzer, manager, meal and oil sales. Retiring are: F. K. Dalrymple, E. P. Kovats, E. G. Rose and N. H. Witte.

Created in 1954, the objective of the advisory board, according to company officials, is to contribute to the success of Central Soya through the education and personal development of individual members and through projects and studies that stimulate new ideas.

ANNOUNCING

ALL NEW



HEAVY DUTY SOYBEAN & CRACKING MILL IN 10x36 - 10x42 TWO & THREE PAIR HIGH & SPECIAL SIZES

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This new Ross Model mill is the latest addition to the Ross line of Roller Mills, for over 25 years the Acme of perfection in roller mills and rolls for all purposes: grinding, crimping, crumblizing, cracking and flaking. 24 sizes in four different models available. Standard Rollerator, Heavy Duty, Heavy Duty, Jr., and 2 High Models.

The Ross Heavy Duty 2 and 3 Pair High Heavy Duty Soybean Mill or Cracking Mill is a specially designed unit for the cutting and processing of soybeans and other hard grains. Each unit is expressly designed for the heavy duty 24-hour service requirements necessary to process soybeans. Equipped with special alloy Turn-Tuff rolls of highest quality, you are assured of maximum service with the special Turner Rolls of super hard quality. Heavy Duty ½" steel seamless welded housing with oversize roller bearings and special solid corrugated feeder rolls of semi steel, all stainless steel gates, heavy plated fittings, heavy duty enclosed chain differential drives with positive roll tramming, quick throw-out levers and shear washer protection for rolls. A special soybean corrugation is usually used on these mills available in reduction multiples of 4-5 to 12-14 corrugations per inch, with differentials to suit.

All Ross units are furnished with highest grade deep chill, Turn-Tuff chilled iron rolls by Turner, World's largest roll makers. Tough hard biting corrugations for years of service.

★ No Gadgets ★ 24 Hour Service ★ Positive Tram & Roll Setting
★ Dust Free Operation ★ All Metal ★ Anti Friction Roller Bearings
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Tuxedo dealerships are open in some areas. If you like this combination of top-notch feeds and powerful dealer helps without cost, wire or call collect long distance the address below, and let's talk!

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...the California economy unit that delivers one or more tons per hour, in all sizes of premium pellets and cubes. The "58" can be used where steam is not available.

This is just one of California's complete line of pellet mills. Other models with capacities to 15 tons per hour. Write for complete information, or ask for your CPM representative to call.

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State's Advantages In Swine Production Told in Mississippi

STATE COLLEGE, MISS.—Mississippi's advantages for swine production were pointed out by several speakers to more than 200 hog growers attending the Mississippi Hog Field Day recently at Mississippi State College.

"Of the southern states, Mississippi is one of the three that has a chance to get into the hog business on a big basis and to stay in it," stated Jim Nance, Alamo, Tenn., president of the National Swine Growers Council.

He said that Mississippi is one of the few southern states that can profitably produce oats, grain sorghum and corn, and added that the state also has larger operators who will try something different once they are sold on it.

"Only 13% of the nation's hog production is in the South. I see no reason why, with the proper program, we can't at least double that," Mr. Nance said.

Jimmie Gibbs, county agent from Quitman, Miss., said operators of smaller farms can raise their standard of living by producing feeder pigs to meet the increasing demand of those who are finishing hogs on concrete.

Dr. C. E. Barnhart, University of Kentucky, reported on swine production practices. "Swine producers looking for ways to produce hogs more efficiently will make more and more use of pastures for bred sows, saving expensive concentrates for growing pigs. By doing so, southern hog producers can become more competitive with the north," he said.

Dr. Clay Lyle, dean and director, division of agriculture, welcomed the visitors to the campus and expressed confidence in the continued importance of hog production in the state's agriculture.

Walter I. Rodgers

NEW APPOINTMENT — Walter I. Rodgers, administrative assistant to F. G. Bemis, president, Bemis Bro. Bag Co., has been appointed assistant to the manager of the firm's East Pepperell, Mass., multiwall bag factory. Mr. Rodgers will assist F. G. Bemis, Jr., East Pepperell manager, in operation of the plant. Mr. Rodgers joined the firm in 1947 as a sales representative for the New York sugar bag sales division, and became affiliated with the New York general sales division in 1953. He served in that position until 1957 when he was appointed the president's administrative assistant. Mr. Rodgers was graduated from Yale University in 1942, where he earned a bachelor of science degree in applied economic science.

Management Urged For Mastitis Control

LAFAYETTE, IND.—Mastitis continues to be the most important scourge of dairymen despite widespread use of antibiotics, according to Dr. T. M. Curtin, Purdue University extension veterinarian.

"Widespread use of 'wonder drugs' to control mastitis became very popular with dairymen following World War II," he said. "However, indiscriminate use of these products resulted in a loss of their effectiveness.

"This loss was far from entirely the fault of the dairyman, because producers of drugs, suppliers, drug commissions, research workers and veterinarians will have to shoulder equal responsibility," he said.

Dr. Curtin said "mistakes regarding mastitis control have been made," and there has been a failure to reduce its frequency of occurrence by attempting to control it primarily by treatment. "It is apparent that we must now take the approach of prevention through management practices and professional assistance," he said.

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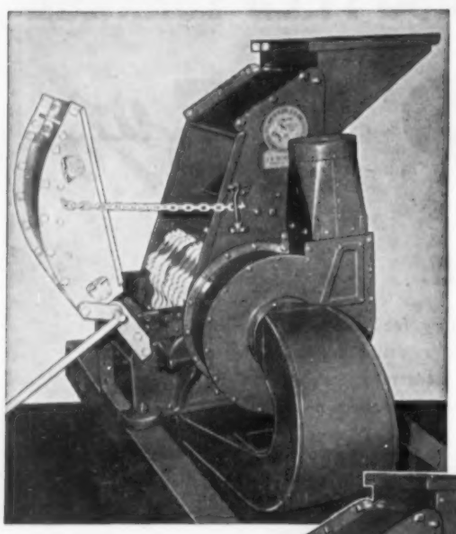

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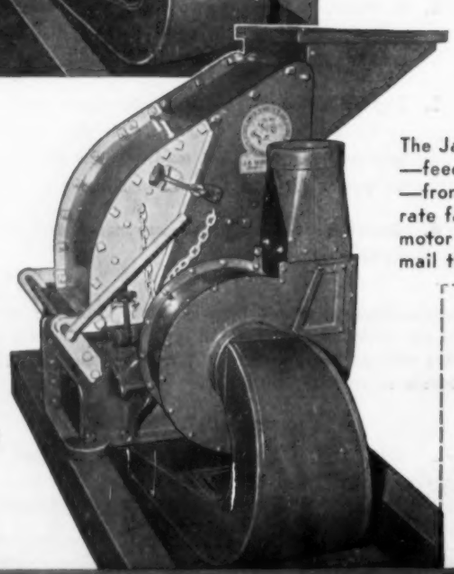

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"Trained Ful-O-Pep men are helping dealers make the switch to bulk feeds,"

says **G. P. MOSELEY,** *Manager of Southern Feed Division of The Quaker Oats Company, in this report to Ful-O-Pep Feed Dealers*

G. P. MOSELEY started 22 years ago as an office boy in the Memphis Feed Plant of The Quaker Oats Company. Advancing through the Feed Sales Department, he was promoted to District Manager in 1953 and Manager of Ful-O-Pep's Southern Feed Division in 1956.

"We at Quaker take the position that our growth is dependent on the feed dealer. We feel this is largely responsible for the 'member-of-the-family' feeling that exists among our Ful-O-Pep Dealers.

"We are dedicated to providing 'know-how' that helps our dealers meet today's changing conditions. Take the matter of bulk handling of feeds. Here's the way for the dealer to reduce handling costs and speed up service to his customers. Our men are trained to help Ful-O-Pep Dealers finance and install bulk handling facilities, as well as grinding and mixing equipment for combining grain and concentrates. In this way, the dealer puts out a finished feed at a price that is more profitable both to him and the feeder.

"Ful-O-Pep is also counselling dealers on credit, financing, and sales promotion problems. This close association and cooperation between the Ful-O-Pep salesman and the dealer is placing him in a better position to sell and service today's feeders.

"Positive proof that Ful-O-Pep's aggressive dealer development program is paying off is shown by the increased volume of tonnage our dealers are doing each month.

"So come on and join the constantly growing members of the Ful-O-Pep family of dealers and cash in on the opportunities for greater feed sales and profits."

Geo. P. Moseley

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J. D. SEDBERRY, Inc., Tyler, Texas • Franklin, Tenn.
NAPOLEON, OHIO

Integration of Egg Production Growing in Arkansas

Feed Men Outline Points to Consider in Setting Up and Operating Programs.

By Jess F. Blair
Feedstuffs Special Writer

Integrated systems of producing eggs as well as broilers continue to become more widespread in Arkansas. Contract feeding appears to be making big inroads, while the independent poultryman is facing a fight for survival.

This is indicated from several days spent interviewing and visiting feed men and farm operators in Arkansas.

Most integrators seem to be making money at it, though some have not been in the game long enough to predict what will happen two or three years hence. Yet everyone, including the feed dealer, hatchery owner and farmer, says that integration will spread still further.

There are three main types of poultry integration in Arkansas—laying hens, breeder hens and broilers. There is also a type where the operator runs pullets on the range at a certain price per bird per week. This article will be confined to laying and breeder hens.

The investigator will find integration in several forms. Every integrator operates a bit differently from the others. There is a semi-integrated plan whereby the feed firm furnishes feed on credit, processes the eggs and hires a service expert to help producers with management problems. The operator finances his own buildings and equipment, and may or may not get chicks from the hatchery on credit.

Another type a bit more integrated is that of the Al Gross Feed Co., Arkadelphia, Ark. Mr. Gross deals with breeder hens, which lay fertile eggs for the hatcheries.

Deal Worked Out

Mr. Gross worked out a deal with a bank and a hatchery. The farmer financed his buildings, equipment and birds through the bank and other lending agencies, while Mr. Gross furnished the feed on credit.

The feed company took a note with the bank. Then, when the hens began to lay, the eggs were picked up by the hatchery truck at the store. The check from the hatchery was made out to Mr. Gross. He deducted a certain amount of the feed bill each time, then gave the producer a check for the balance. However, the check had to be presented at the bank, which took out a large share of it. The producer got what little was left. However, after he had been selling eggs for a few months, his take-home pay was considerably larger. It also depended upon how much of his own money had been used to get his buildings and birds.

A firm in Hot Springs has out around 40,000 laying hens, and furnishes feed and medication on credit until the producer pays off his obligations. Then the dealer holds out the feed and other expense from each week's egg output and gives the man a check for the rest.

The producers financed their buildings, equipment and birds through banks, FHA and other lending agencies. The feed dealer put in an egg grading room where he cartons eggs under his own brand name and sells them to local stores and cafes.

One of the largest and most completely integrated projects is that of Southland Farms, Hope, Ark. This firm has about 150,000 laying hens within a 25-mile radius of town.

Southland Farms, which is a subsidiary of a major hatchery, furnishes the birds, feed, medication and service help, then picks up the eggs at the farms. The producer must provide his own buildings and equipment, including a cooling room. He is paid for each dozen eggs he gathers, but receives a bonus for each egg in excess of 200 per year from each hen.

The producers in all these projects do not grade and carton eggs. They are required to clean the dirty ones and place them in cases or crates. All grading and sorting are done by the integrator.

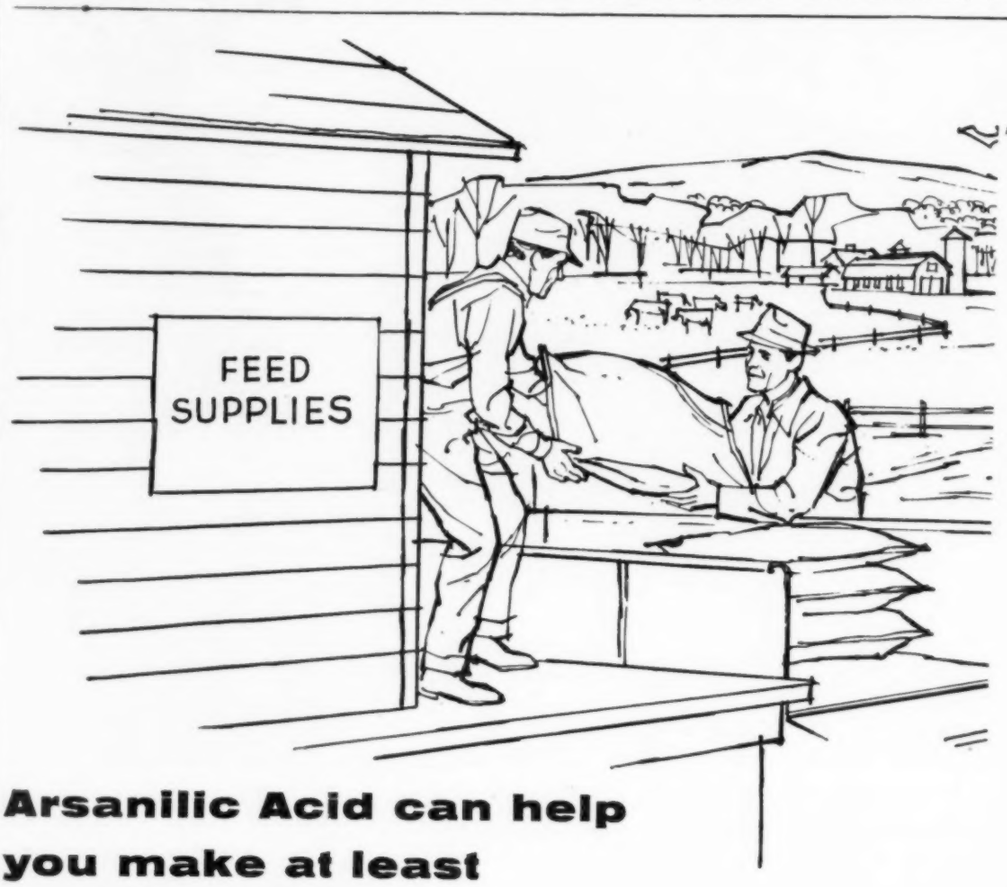
Dealer's Comment

Another feed dealer who planned to get into integration had some very decided ideas about it.

"It may be a bad thing," he said, "but we've got to get into it or lose what customers we have. I've started several poultrymen in business, but always have trouble collecting. Most of them are accustomed to a low income, and when they start getting several hundred dollars a month, they buy a new car, television and furniture. They get further and further behind with their feed bill and usually never pay it."

This dealer said the only way to avoid such trouble was to buy all the eggs, then hold out feed and medication expenses before giving the producer his check.

Not everybody is satisfied with integration. Some dealers say it re-



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Greater effectiveness: Faster growth and weight gains, higher and more even egg production, healthier animals. Swine and poultry *actually use less feed* to give these better results. Profits look good, even on low-margin operations.

Safety: Wide and unmatched safety enables you to fortify swine and poultry feeds at the same level *with assurance* that livestock will not experience toxicity problems that may affect weight gains, growth, egg production or general health. In addition, Arsanilic Acid offers you . . .

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quires a great outlay of capital. They must add extra equipment, such as trucks and egg grading rooms, and find a market for the eggs. Those who work with breeder hens are greatly dependent upon the hatchery, which in turn is at the mercy of the up and down broiler market.

But once integration starts successfully in an area, the small producer finds a very tough type of competition. The big integrator with 50,000-100,000 hens can reach out and get markets the small producer cannot touch. He can hire service experts and provide facilities so that labor saving can be achieved. And he may weather the financial reverses much better than the independent poultry producer or the feed dealer who serves only a few flocks.

Points to Consider

If a feed mill owner is interested in poultry integration, here are a few points he must consider:

1. He must have an assured egg market. He might find it in a large city, if he is located in one. If not, he must have the trucks to haul eggs a longer distance. In every case, he should size up his competition carefully. A few big operators with 100,000 hens can saturate quite an area with eggs.

2. He must have a sound financial plan. He should tie the farmer up with some kind of mortgage. He must also remember that unless his producers make money, no one will be in business long.

Most integrators allow the producer 6@7¢ for each dozen eggs he gathers. They sign a contract for 12-18 months, but no longer, because conditions may change. Eggs may drop like they did in 1957, in which case the integrator may be compelled to reduce the profit margin.

3. The dealer should find the type of housing and equipment needed for a particular area. This information can be found with people already in the business or from the state's agricultural colleges. Most integrators insist upon a standard type house, while a few have producers who converted existing buildings on the farm.

4. Producers should be picked with great care. All dealers interviewed admitted they had a few bad ones. One man told of two farmers who got 195 and 240 eggs respectively from the same type of hens. So far as he could learn, the only difference was in management.

5. Try to choose farmers within a certain radius of town. Most dealers limit their producers to about 25 miles away, though the roads and other factors may determine this.

6. Be very careful in hiring a flock supervisor. He must have the technical knowledge but should also have the ability to work harmoniously with people. One Texas integrator hired a supervisor who irritated producers by his attitude, and the whole project got off to a wobbly start. The service man is a key figure in any integration plan because producers never get to the point where they don't need help.

7. Have a signed contract and some sort of security from the new producer before credit is extended. Check the prospect through the banks and credit bureaus, and also talk to his neighbors. If he doesn't pay his bills and has never succeeded at anything, he will also be a failure with chickens.

8. Keep the producer's expenses in mind. The more he borrows, the sooner he may become discouraged. One producer, Trosie Formby, with the Southland Farms project, possibly saved $2,000 because he built his own houses.

9. Plan for expansion, but don't start too big. The feed man will likely need facilities for bulk handling of feed—perhaps more milling equipment, but certainly bulk trucks and extra labor.

One dealer was still handling sacked feed, but his labor was higher than that of other integrators. And in going to bulk feed, the dealer should have the growers build some sort of overhead feed bin.

10. Figure out a minimum flock size. The man with 500 layers will require almost as much help as the fellow with 5,000. And the driving distance will be the same.

11. All dealers agreed that the producer should have a bonus for superior production. With one company the extra payment amounted to one fifth cent for each egg produced in excess of 200. Top producers with this firm were making nearly $1.50 per hen.

12. Buy only the highest-laying strains of birds; use only the best feed. If your producers can't get more than 200 eggs annually from each hen, you will have a rough time of it. This means good equipment, good operators and an experienced flock supervisor.

When Prices Drop

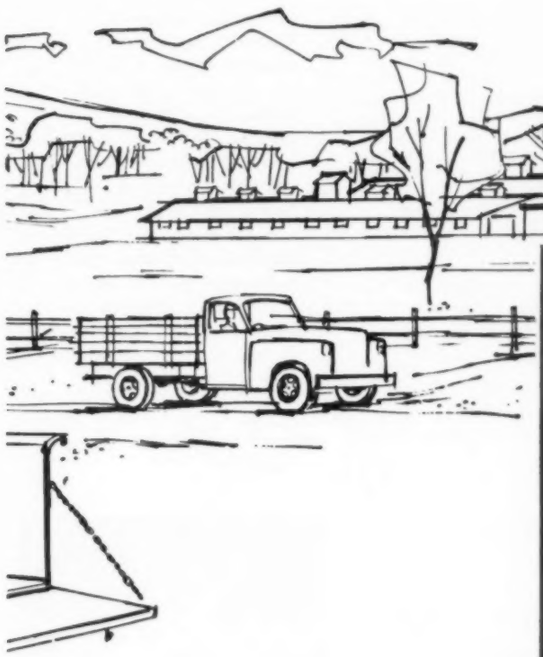
The tendency of the integrator to start shaving expenses when prices drop is an important factor. John Randolph of Southland Farms brought out this point quite forcibly.

"When egg prices slump, the hatcheries will try to sell the company cheaper birds," said Mr. Randolph. "If the integrator starts substituting 195-egg hens for those that will lay 220, he is doomed. This is what some independent poultry operators have done, and it never pays."

Despite the problems, integration with poultry has helped some dealers jack up a sagging feed business. It can mean financial loss but, if carefully planned and soundly financed, it apparently can be successful—as many integrated projects in Arkansas are today.

EXPANSION PLAN APPROVED

CRESTON, IOWA — An expansion program totaling nearly $250,000 has been approved by the Farmers Cooperative Co. here. Included in the program are the remodeling and expansion of the feed mill.



effective!

If you have a supplement, concentrate or complete feed for swine or poultry which is not fortified with Arsanilic Acid, make the change to more effective feeds . . . *all season long* . . . by adding Arsanilic Acid to your full line.

You'll enjoy the easier resale work that results from addition of this low-cost growth stimulant to your feeds.

***Here is a checklist of 23 types of feeds to be fortified with Arsanilic Acid**

Type of Feed	Add Pure Arsanilic Acid per ton of feed†
BROILER FEEDS	
☐ Chick Starting Feeds	90 grams
☐ Growing Feeds	90 grams
☐ Broiler Finishing Feeds	90 grams
☐ Medicated, trouble-shooting Feeds†	90 grams
☐ Supplements, Concentrates	††
LAYER FEEDS	
☐ Breeder Feeds	90 grams
☐ Pullet Developer, Growing-type Feeds	90 grams
☐ Layer Feeds	90 grams
☐ Trouble-shooting Feeds†	90 grams
☐ Supplements, Concentrates	††
SWINE FEEDS	
☐ Sow and Pig Feeds	90 grams
☐ Pig Starters	90 grams
☐ Creep and Pre-Creep Feeds	90 grams
☐ Growing Feeds	90 grams
☐ Finishing Feeds	90 grams
☐ Breeder Feeds	90 grams
☐ Trouble-shooting, Conditioning Feeds†	90 grams
☐ Supplements, Concentrates	††
TURKEY FEEDS	
☐ Starter and Pre-Starter Feeds	90 grams
☐ Growing and Finishing Feeds	90 grams
☐ Mashes, Crumbles and Pellets	90 grams
☐ Trouble-shooting Feeds†	90 grams
☐ Supplements, Concentrates	††

†In first and second line of complete feeds, medicated and trouble-shootings feeds, use 90 grams of pure Arsanilic Acid or one pound of PRO-GEN® 20% Premix per ton of feed to give benefits which only this effective low-cost additive can provide. **One pound PRO-GEN® 20% Premix contains 90 grams pure Arsanilic Acid.**

††Amount of Arsanilic Acid used varies in direct proportion to the amount of grain added or with protein level of concentrate or supplement so that up to 90 grams of Arsanilic Acid is provided per ton of complete feed or of total feed eaten. Complete information in Technical Information Folder—Bulletin No. F-400 entitled "How to Fortify and Label Feeds with PRO-GEN® (Arsanilic Acid)."

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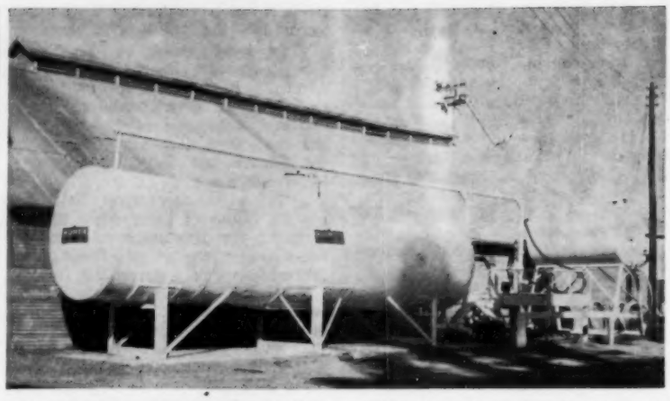

LIQUID FEED BLENDING PLANT—Mitchell Seed & Grain Co., Roswell, N.M., has been putting special emphasis on the merchandising of liquid feed supplement in radio advertising and other promotions. The firm's blending plant, located a block and a half from the mill, is shown here.

New Mexico Firm Wins Customers With Radio Chats

By FRIEDA B. HYATT

An informal, chatty radio program is doing a good job of merchandising for Mitchell Seed & Grain Co., Roswell, N.M., according to officials of the firm.

The program is handled by Ervin Mitchell, president and general manager, who talks to farmers at 6 a.m. three mornings a week over a local radio station.

F. B. Mitchell, assistant manager, says the informal talks every Tuesday, Thursday and Saturday have good results. The firm is a distributor of liquid feed supplement, and the radio program has led to many new customers, the assistant manager said.

"People are coming in all the time to tell us they heard Ervin on the radio," he said. "They want to know what liquid feed is all about. The interest leads to setting up a program for one farmer and to his telling another."

The radio advertising ties in well, he said, with advertising in livestock publications and newspapers. And the feed firm also backs this up with displays at its store. Included in the displays are 140-gal. pickup tanks and a covered wagon feeder containing a 285-gal. storage tank.

George Goebel, salesman for the firm, said liquid feed is "taking hold" in the area. He pointed out that one customer, 150 miles away, is using liquid feed. The customer fills his feed troughs once every eight days.

The firm maintains a 1,200-gal. tank on a ½-ton truck for delivery. Pickup tanks are kept in the mill. A blending tank, located a block and a half from the mill, has a capacity of 175 tons.

In addition to the radio advertising and store promotion, the firm also puts out a news letter four times a year. Usually of four pages in length, the news letter is an effective medium for promoting liquid feed along with the other products and services handled.

FEEDLOT—Cattle owned by L. E. Hand Co., Roswell, N.M., are shown in the feedlot where they are on free choice liquid feed supplement and sorghum bundles. Liquid feed is delivered directly to the feedlot by Mitchell Seed & Grain Co., Roswell.

DISPLAY — On display at Mitchell Seed & Grain Co., Roswell, N.M., are a sheep feeder and pickup tanks for liquid feed.

Meat Inspection Act Goes Into Effect

OTTAWA—A new Meat Inspection Act went into effect in Canada on March 1. Dr. G. A. Rose, assistant veterinary director general, said the act will provide greater guidance to packing plant managers and department of agriculture inspectors across the country.

Canadian meat inspection had come under the Meat and Canned Foods Act since 1907. While passed in 1955, the Meat Inspection Act awaited completion of new regulations before taking effect. Dr. Rose explained that it plugs some weak points in the old set of regulations, and generally adds strength to meat inspection work in Canada.

It is estimated that 80% of all livestock and eviscerated poultry are processed under federal meat inspection. Inspected slaughterings for the 1958 calendar year were 51,773,113, or 54.5% more than in 1957.

Meat and meat food products exported from Canada during the 1957-58 fiscal year (March 31) totalled 134,095,503 lb., an increase of 37,980,803 lb., or 39.5% over the previous year. At the same time, imports increased by 15,110,797 lb. to 106,807,546, or 16.4%.

The new regulations provide for registration of establishments in which animals and poultry are slaughtered and processed, for inspection of premises, livestock, carcasses and meat products, for re-establishment of standards for packaging, and for labeling and marking requirements.

Note to Feed Retailers:

Boost your feed sales . . . and your customer goodwill . . . by promoting the National Cotton Council's 1959 Cotton-Feed-Bag-Sewing Contest. Use the page opposite this as a window or wall poster in your store . . . and send the coupon if you can use additional free posters. Bemis is doing this as an aid to the Feed Industry and the National Cotton Council.

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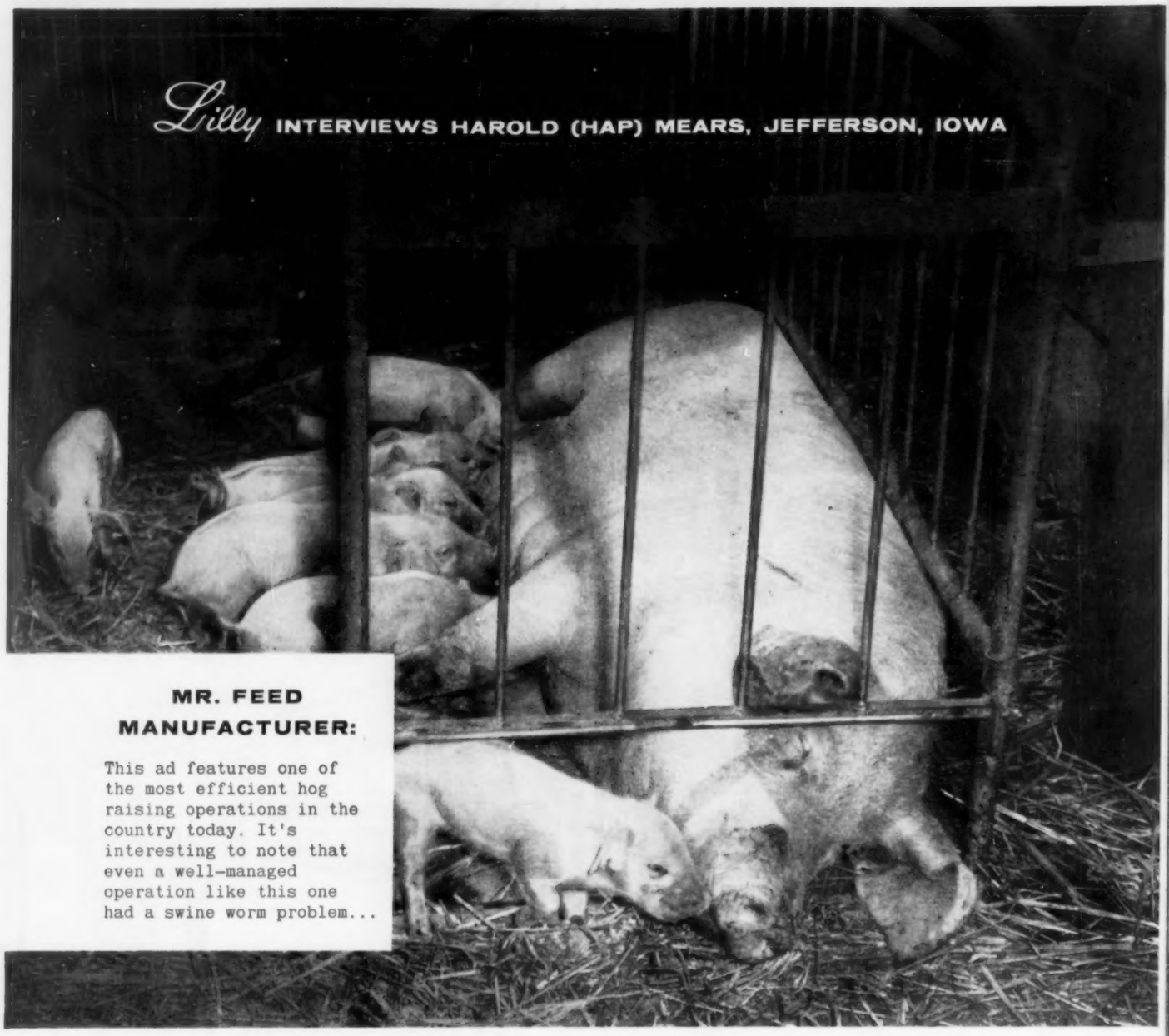
LANCASTER, PENNSYLVANIA

Lilly INTERVIEWS HAROLD (HAP) MEARS, JEFFERSON, IOWA



MR. FEED MANUFACTURER:

This ad features one of the most efficient hog raising operations in the country today. It's interesting to note that even a well-managed operation like this one had a swine worm problem...

"We just don't have a worm problem any more!"

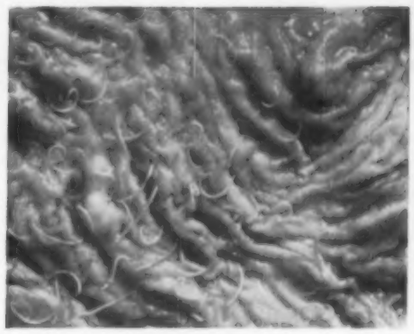
"We've measured Hygromix up one side and down the other. We couldn't be better satisfied...there's no bother, no fuss, no muss."

Harold Mears, a hog raiser since 1941, has one of the most efficient meat-type hog breeding operations in the country today. Litters from 115 Landrace sows are thoroughly measured and recorded. Each litter or pig can be accurately compared with any other on the basis of bloodlines and meat-making ability. Mr. Mears' standards are so high, 98% of his *culls* slaughter out as U. S. No. 1's.

Two pigs from each litter are slaughtered to get further records on carcass grade, length, dressed weight, weight and percentage of lean cuts, and area of loin eye. Sold on grade and yield, they often bring $1.75 to $2.40 above top price on a live-animal basis.

One of the first to test Hygromix, Mr. Mears did a typically thorough job of it. He had this to say about swine worms: "It's worth 10 times as much to kill worms before they mature as it is to remove them after they've done their damage and reinfested the place with eggs. Hygromix does it . . . it's the first *real* control we've ever seen...we can't say enough for it."

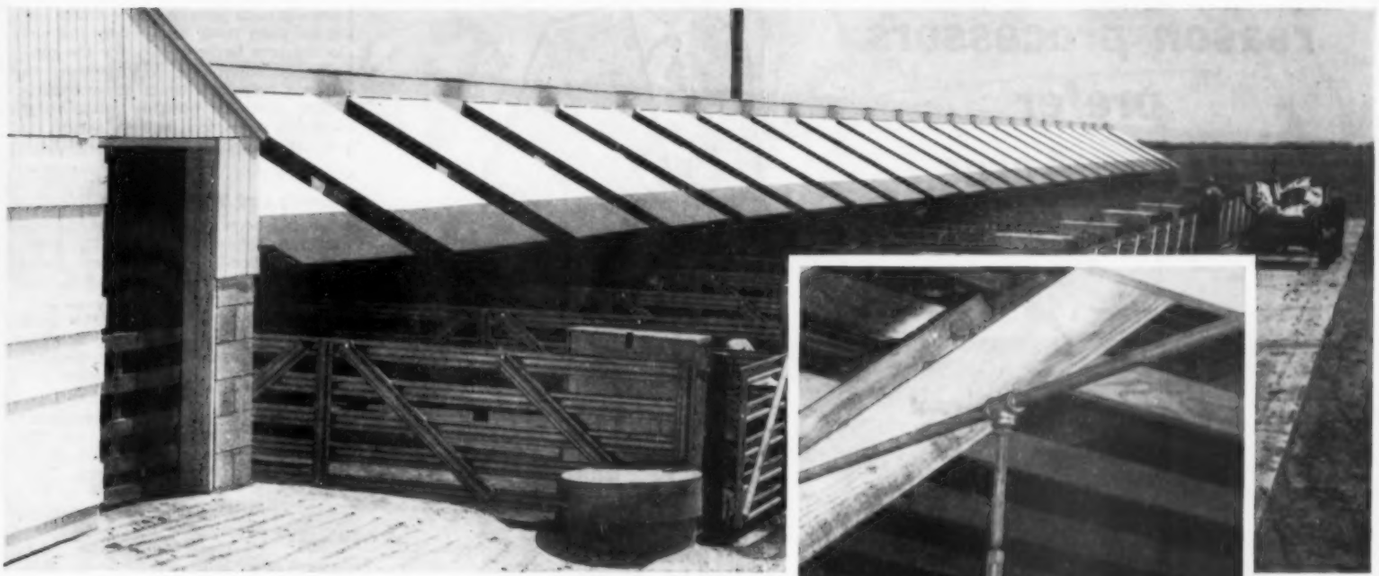
Mears uses Hygromix to control these three damaging swine worms



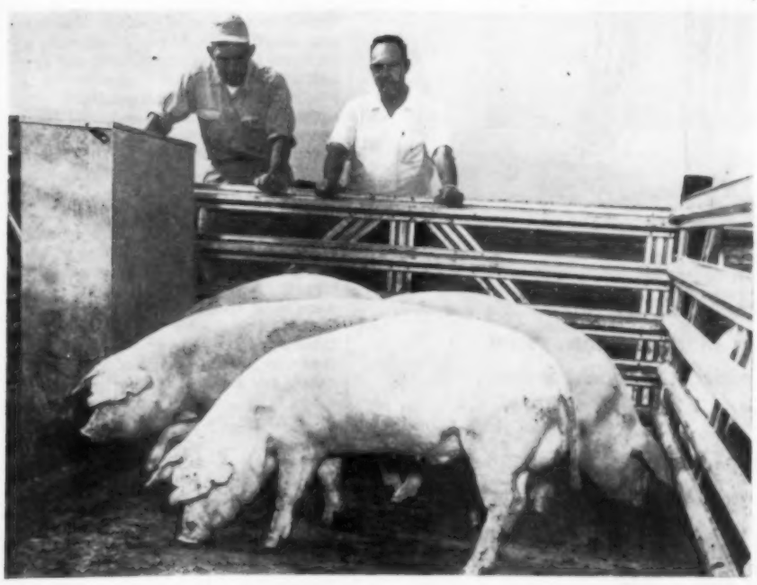
1. Large roundworms can block intestine, disturb digestion, reduce nutrient absorption, and block bile duct. Pigs get thumps, ulcers, damaged livers, lung hemorrhage, become unthrifty.

2. Nodular worms cause damage leading to anemia, emaciation, diarrhea, unthriftiness. Surviving pigs are often stunted. Nodules (shown in photo) are source of much secondary infection.

3. Whipworms can kill young pigs. Worms interlace intestinal wall (see photo), causing inflammation of lining, bleeding, diarrhea. Damaged walls permit bacteria to enter and infect.



When temperature hits 85°, these foggers go on automatically.



This well-planned operation (above) produces 1200 purebred Landrace each year. Fans, heaters and foggers are arranged to give automatic temperature and humidity control. Mears points out that Hygromix in-feed worm control fits his automatic operation because it requires no extra time or labor, no change in feeding or watering methods. Mears has fed Hygromix to more than 2000 head. "We just don't have a worm problem any more!" he notes. "We couldn't be better satisfied."

"Hap" (right) and George Opperman, feed manufacturer's representative, examine a few of Mears' outstanding, meat-type breeding stock. Mr. Mears found he could get 3-day-old pigs on solid feed by sprinkling fresh dirt over pellets for a day or so. Mears keeps his pigs on Hygromix rations from the time he weans them at about 4 weeks, until they weigh 125 pounds. In this way he starts worm control very early. This gives his pigs day-by-day protection during their growing period when worm damage is critical and control pays off best.

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(S. hygroscopicus fermentation products, Lilly)

Lilly

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Putting Research To Work

BY SPENCER H. MORRISON, PH.D., D. V. M.

Do Enzymes Improve Oat and Barley Rations for Broilers?

● R. W. Gerry, University of Maine, Maine Farm Research, January, 1959, Vol. 6, No. 4, pp. 14-16.

ABSTRACT

Five trials were conducted to test enzyme supplement additions to the New England College Conference broiler starting ration, when varying amounts of corn in the standard formula were replaced with oats and/or barley.

The products used and the amount of substitution were:

Trial 1—Commercially prepared experimental enzyme supplement (MK-124), oats replacing either ¼ or ½ corn.

Trial 2—Same enzyme preparation, corn replaced by either one half eastern barley or oats.

Trial 3—Same enzyme preparation, all corn replaced by eastern barley.

Trial 4—DaweNzyme used, all corn replaced either by oats or eastern barley.

Trial 5—Agrozyme (Merck) used, all corn replaced either by oats or eastern barley.

Duplicate lots of 20 males and 20 females (80 chicks total) were started on each ration in all trials. Birds were removed from test at nine weeks of age in the first four trials, and at eight weeks in the fifth trial.

Results showed that when either eastern barley or oats was added to the standard N.E.C.C. broiler starting ration in place of corn, growth was poorer and feed conversions less efficient, especially at higher substitution levels. Oats gave poorer results than barley. The enzymes did produce somewhat better results in certain cases, but the differences were not significant. There was little difference between various enzyme supplements with respect to performance.

COMMENT

In this experiment, when only one quarter of the corn was replaced by oats, performance was not greatly affected in terms of either gain or feed efficiency—a somewhat surprising result in view of the composition of the ration employed.

It is a commonly held viewpoint by many that enzymes are of little value when added to eastern barley. The work of the western experiment stations with western barley has been extremely encouraging, but the same amount of optimism has not been shared by all.

McGinnis and co-workers (1958) have reportedly been able to secure improvements in both growth and feed conversions by enzyme or water treatment of barleys of known origin from North Dakota, Wisconsin, Ontario, Arkansas, New York and Minnesota. Generally, the responses have usually been definite but of much less order than those secured by the use of western barleys. Now for the puzzling question: Why do these workers secure responses when other experiment stations working with other samples of eastern barleys secure no or little response?

◆

Timely and Worth Noting

It has been noted previously in this column (Feedstuffs, July 12, 1958) that Polybor-3 (Pacific Borax) added to the feed at the rate of 3-6 lb. per ton may aid in fly control in cage layer operations according to work done at Texas A&M College. This use is not yet approved by the Federal Food and Drug Administration.

In light of recent work by the Louisiana Agricultural Experiment Station ("Danger — Borax for Fly Control," B. A. Tower and E. C. Burns, Egg Producer, March, 1959, Vol. 90, No. 3, p. 38), it now appears that such use of Polybor-3 would be extremely unwise.

The new work showed that when caged Leghorn-type layers were housed in a fly-free air conditioned room and fed five different levels of Polybor-3 in the ration (1, 2, 4, 6, and 10 lb. per ton of feed) production was drastically affected along with a decrease both in body weight and egg weight, for all three higher levels of Polybor-3 which were used. Food consumption was also reduced, and tests revealed that fairly high levels of boron were present within three days after feeding in the eggs themselves.

Further tests showed that no fly control was achieved at the two lower levels of Polybor-3, while partial control was apparent at the 4 lb. level, with almost 100% control at higher levels. However, when levels were used which permitted house fly control, the tissues of the body contained great amounts of boron. Furthermore, boron containing manure should not be used to fertilize certain crops according to recommendations by agronomists.

Obviously, this method of fly control is full of pitfalls and has been found to be wanting.

LEAVES FOR ISRAEL

ROBBINS, CAL. — Phil Larner, former executive with the Sutter Basin Corp., Robbins, manufacturer of pelleted feeds, has left for Israel, where he is acting temporarily as an advisor to the government of that Near Eastern country in the production of pelleted feeds.

Another reason processors prefer Arbor Acres Crosses

Mandatory federal inspection is here. From now on only the *best* birds will pay off. The Arbor Acres female first became famous as "the processor's bird" and this acceptance has increased each year. Marketing men prefer broilers from this great bird because they dress easier, their yield is consistently higher, their consumer appeal sells on sight.

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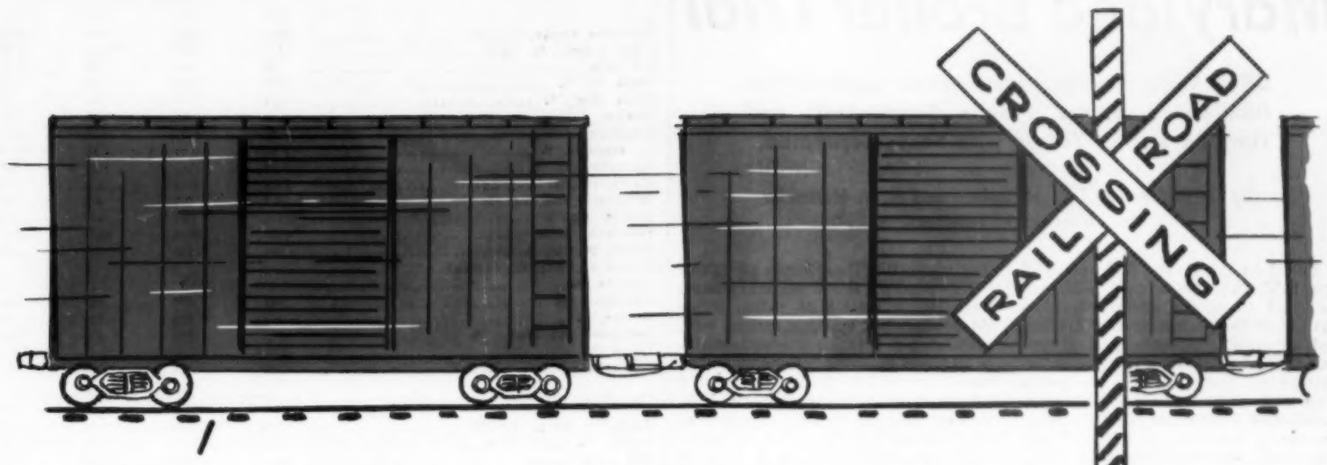

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Maryland Broiler Trial

Dried Whey Product, Methionine, Glycine, Protein Level, Animal Protein Supplements and Time on Starter Tested with Sexes Separated.*

By G. F. Combs, J. L. Nicholson and N. V. Helbacka
University of Maryland

Based on the results of Trials S-23 and S-24, this broiler trial S-25, was designed to obtain additional information on the performance of broilers fed simplified corn-soybean meal type rations and to obtain additional information on their response to amino acid and unidentified factor supplementation. In addition, further information on the effect of different protein levels and time on starting feeds was desired.

This trial involved 32 lots, each consisting of 150 Vantress X Arbor Acre crossbred chicks; one half of these pens contained males and the other half contained females. The trial was completed on Dec. 12, 1958 when the broilers were 8 weeks of age. Eight different starting rations followed by their respective finishing rations were each fed to two lots of males and two lots of females. The experimental outline is given in Table 1.

The composition and calculated analysis of starting and finishing rations fed are given in Tables 2 and 3. All supplements to these rations (as indicated at the bottom of Table 3) were added in place of an equal amount of corn. The starting rations were formulated essentially isocaloric, with approximately 1,050 Calories of productive energy/lb., and the finishers were calculated to contain approximately 1,075 Calories of productive energy/lb. These feeds contained 6-8% added fat and were fed in mash form. As in Trial S-24, ration series 1-4 consisted of starting rations with calculated C/P ratios of approximately 48:1 and finishing rations with C/P ratios of 55.3:1. Ration series 5-8 consisted of starting and finishing rations with calculated C/P ratios of approximately 45:1 and 51.7:1, respectively. Ration series 1, 2, 3, 5 and 6 contained no supplemental sources of unidentified growth factors. Rations series 7 contained only 2% dried whey product (50% lactose) as an unidentified factor supplement.

Ration series 3 differed from ration series 1 in that it contained additional supplemental methionine. Ration series 2 differed from ration series 3 in that it contained 0.2% added glycine, as well as additional methionine. Ration series 5 differed from ration series 1 only in that it contained additional soybean meal, thus increasing its protein content. Ration series 6 differed from ration series 5 only in regard to methionine content. Ration series 8 served as the positive control with ample protein and methionine, animal protein supplements, and dried whey product. Ration series 4 differed from ration series 8 in that it contained no dried whey product or meat scrap and less total protein.

One half of the males and females which were fed each of the 8 starting rations were changed to the respective finisher feed at 4 weeks of age, while the other half was not changed to finishing feeds until 6 weeks of age. This was done, as in Trial S-24, to determine whether or not differences in performance of males and females would result when changed at either 4 or 6 weeks to lower protein finishing rations.

Body weights and feed consumption records were taken at 4, 6 and 8 weeks of age. At 5 days, the chicks were vaccinated for Newcastle (interocular) and bronchitis, and at 3½ weeks, they were dusted with Newcastle vaccine. No specific disease conditions were encountered during the test. Ration series 1, 4 and 8 in this trial are very similar to ration series 1, 4 and 7 in Trial S-24 (Feedstuffs, Nov. 22, 1958) and ration series 14, 11 and 6 in Trial S-23 (Feedstuffs, Aug. 9, 1958).

The eight-week results for males and females are given in Table 4.

Temperature Effects. Although growth rate was somewhat better than that obtained in Trial S-24, feed conversion was lower. Undoubtedly, this reflects the effect of season, since Trial S-24 was completed on Sept. 19, when the weather was considerably warmer. It is of interest, however, that as much as 0.08 more lb. of feed was required per pound of body weight at 8 weeks with broilers that averaged 0.17 lb. heavier in body weight. At the end of the sixth week, the difference in feed conversion was even greater.

Temperatures recorded 3 ft. above the floor did not fall below 72° F. during the entire trial. Also, ample supplemental heat was provided during the first several weeks of the trial. Therefore, it is difficult to believe that these chicks actually used

*Miscellaneous Publication No. 352, Contribution No. 3008 of the Maryland Agricultural Experiment Station (Department of Poultry Husbandry).

TABLE 1. Experimental Outline (Trial S-25) Md. Agr. Exptl. Sta., Salisbury, Md.

Ration Series*	Description	—C/P ratio— Starter	Finisher†	Gm. Methionine per Therm Prod. Energy (Starter)	(Finisher)
1	Corn-soybean meal	48	55.3	1.93	1.73
2	As 1 + addn'l methionine‡ + 0.2% glycine	48	55.3	2.14	1.95
3	As 1 + addn'l methionine only	48	55.3	2.14	1.95
4	As 1 + fish meal + poultry by-prod. meal + addn'l methionine	48	55.4	2.13	1.98
5	Corn-soybean meal	45	51.7	2.03	1.81
6	As 5 + addn'l methionine	45	51.7	2.14	1.95
7	As 6 + 2% dried whey prod. (50% lactose)	45	51.7	2.14	1.95
8	Pos. control (fish meal + poultry by-prod. meal + meat scrap + dried whey prod. + methionine)	45	51.8	2.17	1.95

*Two pens of 150 males and two pens of 150 females per ration (Vantress X Arbor Acre crossbreds).

†Half of the pens changed to finishers at 4 weeks; the other half at 6 weeks.

‡All rations contained a minimum of 0.75 lb. of added methionine per ton.

TABLE 2. Composition of Rations (Trial S-25)

Ingredients	Starting Rations* S-1	S-4	S-5	S-8	Finishing Rations* F-1	F-4	F-5	F-8
	Lb. per ton							
Ground yellow corn	1074	1135.5	983	1076	1175	1234.6	1090	1182
Stabilized fat	140	120	160	120	140	120	160	120
Fish meal, menhaden, 60%	...	50	...	50	...	40	...	40
Meat and bone scraps, 50%	...	...	...	75	...	...	...	60
Poultry by-products meal	...	75	...	75	...	60	...	60
Soybean meal, 50%	630	480	700	450	490	365	555	340
Corn gluten meal	50	80	50	50	75	75	75	75
Dehy. alfalfa meal, 20% (150,000 I.U. of A/lb.)	25	25	25	25	40	40	40	40
Dried whey product (50% lactose)	...	...	...	40	...	...	...	40
Limestone	20	20	20	12	20	20	20	12
Dicalcium phosphate	42	28	42	12	40	28	40	15
Salt	8	6	8	6	8	6	8	6
Trace mineral mix†	2	2	2	2	2	2	2	2
Choline chloride, 25% mix	2	1	2	...	3	2	3	1
DL-methionine	...	0.5	...	...	...	0.4	...	...
Glycine	...	...	...	...	...	...	...	...
Special mix‡	7	7	7	7	7	7	7	7
Total, lb.	2000	2000	2000	2000	2000	2000	2000	2000

*See footnotes 1 and 2, Table 3.

†Supplies 60 ppm manganese, 1.2 ppm iodine, 2 ppm copper, 0.4 ppm cobalt, 25 ppm iron and 18 ppm zinc.

‡Supplied per ton: Glycamide (100%), 54.4 gm.; BHT (100%), 0.25 lb.; choline chloride (100%), 1.25 lb.; menadione sodium bisulfite, 1 gm.; riboflavin, 4 gm.; niacin, 30 gm.; D-calcium pantothenate, 10 gm.; procaine penicillin, 4 gm.; sodium molybdate, 1 gm.; alpha tocopherol acetate, 1000 I.U.; DL-methionine, 0.75 lb.; vitamin B_{12}, 6 mg.; vitamin A, 3 million I.U.; vitamin D_3, 0.8 million I.C.U., and 3-nitro, 4-hydroxy phenyl arsonic acid, 45 gm.

TABLE 3. Calculated Analyses (Trial S-25) Completed Dec. 12, 1958 Md. Agr. Exptl. Station, Salisbury, Md.

	Starter Rations[1] S-1	S-4	S-5	S-8
Productive energy, Cal./lb.	1051	1052	1048	1048
Crude protein, %, Calc.	21.9	22.0	23.3	23.37
C/P ratio	48	48	45	45
Crude fat, %	10.7	10.7	11.6	9.5
Crude fiber, %	2.3	2.3	2.3	2.6
Calcium	1.18	1.20	1.18	1.20
Phosphorus, total, %	0.75	0.72	0.75	0.72
available, %	0.50	0.50	0.50	0.49
Riboflavin, mg./lb.	3.03	3.15	3.03	3.24
Niacin, mg./lb.	26.6	26.8	26.6	27.9
Pantothenic acid, mg./lb.	8.2	8.1	8.2	8.1
Choline, mg./lb.	834	824	860	836
Vitamin A, IU/lb.	4500	4475	4500	4320
Vitamin D_3, ICU/lb.	400	400	400	400
Vitamin B_{12}, mcg./lb. (added)	3	3	3	3
Arginine, %	1.20	1.22	1.29	1.29
Methionine, %	.446	.494	.468	.500
Cystine, %	.315	.322	.332	.336
Methionine and cystine, %	.761	.791	.825	.830
Lysine, %	1.057	1.087	1.15	1.15
Tryptophane, %	.233	.226	.250	.230
	Finisher Rations[2] F-1	F-4	F-5	F-8
Productive energy, Cal./lb.	1074	1074	1072	1071
Protein, %	19.5	19.4	20.7	20.6
C/P ratio	55.3	55.4	51.7	51.8
Methionine, %	0.41	0.47	0.44	0.46
Cystine, %	0.29	0.29	0.30	0.31
Lysine, %	0.88	0.89	0.96	0.87
Tryptophane, %	0.20	0.19	0.22	0.21
Arginine, %	1.06	1.08	1.10	1.12

[1]Starting ration: S-2 = S-1 + 0.2% glycine + 0.05% DL-methionine
S-3 = S-1 + 0.05% DL-methionine
S-6 = S-5 + 0.025% DL-methionine
S-7 = S-5 + 0.025% DL-methionine + 2% dried whey prod. (50% lactose)

[2]Finishing ration: F-2 = F-1 + 0.2% glycine + 0.0375% DL-methionine
F-3 = F-1 + 0.0375% DL-methionine
F-6 = F-5 + 0.0125% DL-methionine
F-7 = F-5 + 0.0125% DL-methionine + 2% dried whey prod. (50% lactose)

TABLE 4. Results of Trial S-25 at 8 Weeks

Ration	Wks. on Starter	Average 8-wk. Wt./lb. Male	Female	Av.	Feed/Wt. (0-8 wks.) Male	Female	Av.
1	6	3.331	2.698	3.000	2.040	2.139	2.089
	4	3.127	2.667	2.897	2.064	2.153	2.108
	average	3.229	2.683	2.955	2.052	2.146	2.098
2	6	3.268	2.777	3.023	2.022	2.088	2.055
	4	3.238	2.726	2.982	2.029	2.112	2.070
	average	3.253	2.752	3.002	2.025	2.100	2.062
3	6	3.299	2.687	2.993	2.039	2.199	2.119
	4	3.294	2.735	3.015	2.031	2.089	2.060
	average	3.297	2.711	3.004	2.035	2.144	2.039
4	6	3.381	2.785	3.083	2.056	2.096	2.076
	4	3.282	2.743	3.013	2.102	2.082	2.092
	average	3.332	2.764	3.048	2.079	2.089	2.084
Average	1-4	3.277	2.727	3.002	2.047	2.120	2.071
5	6	3.082	2.738	2.910	2.073	2.088	2.080
	4	3.269	2.723	2.996	2.076	2.100	2.088
	average	3.176	2.731	2.953	2.074	2.094	2.084
6	6	3.290	2.783	3.037	2.043	2.056	2.049
	4	3.163	2.736	2.950	2.065	2.110	2.087
	average	3.227	2.760	2.993	2.054	2.083	2.068
7	6	3.336	2.775	3.056	1.983	2.066	2.024
	4	3.277	2.762	3.020	2.024	2.074	2.049
	average	3.307	2.769	3.038	2.003	2.070	2.036
8	6	3.326	2.671	2.999	2.060	2.115	2.087
	4	3.169	2.741	2.955	2.147	2.142	2.144
	average	3.248	2.706	2.977	2.103	2.128	2.115
Average	5-8	3.240	2.741	2.990	2.059	2.093	2.076
All rations	6	3.289	2.745	3.017	2.039	2.106	2.072
	4	3.227	2.729	2.978	2.067	2.108	2.087
Average		3.258	2.737	2.996	2.053	2.107	2.073

TABLE 5. Effect of C/P Ratio on Broiler Performance as Influenced by Sex (S-25)

C/P Ratio			Average Gain, Lb.					
			4-6 Wks.			6-8 Wks.		
0-4 Wks.	4-6 Wks.	6-8 Wks.	Males	Females	Both Sexes	Males	Females	Both Sexes
45	45	51.7	0.90	0.74	0.82	3.26	2.74	3.00
45	51.7	51.7	0.85	0.65	0.75	3.22	2.74	2.98
	Average		0.88	0.69	0.79	3.24	2.74	2.99
48	48	48	0.90	0.74	0.82	3.32	2.74	3.03
48	55.3	55.3	0.97	0.64	0.80	3.24	2.72	2.98
	Average		0.93	0.69	0.81	3.28	2.73	3.00
			Feed Conversion					
			F/G (4-6 Wks.)			F/W (0-8 Wks.)		
45	45	51.7	2.24	2.32	2.28	2.04	2.08	2.06
45	51.7	51.7	2.35	2.62	2.48	2.08	2.11	2.09
	Average		2.29	2.47	2.38	2.06	2.09	2.08
48	48	55.3	2.29	2.36	2.32	2.04	2.13	2.08
48	55.3	55.3	2.12	2.57	2.34	2.06	2.11	2.08
	Average		2.20	2.46	2.33	2.05	2.12	2.08

Four pens of 150 Vantress X Arbor Acre crossbred chicks of each sex combined in each value.

TABLE 6. Effect of Time on Starter and Sex on Broiler Performance (S-25)

Sex	Weeks on Starter	Average Weight, Lb.*			Average Gain, Lb.	
		4 wks.	6 wks.	8 wks.	4-6 wks.	6-8 wks.
Males	6	1.24	2.14	3.29	0.90	1.15
	4	1.24	2.15	3.23	0.91	1.08
	Average	1.24	2.15	3.26	0.90	1.12
Females	6	1.10	1.84	2.75	0.74	0.91
	4	1.10	1.75	2.73	0.65	0.98
	Average	1.10	1.79	2.74	0.69	0.95
Av. of Both Sexes	6	1.17	1.99	3.02	0.82	1.03
	4	1.17	1.95	2.98	0.78	1.03
		Feed Conversion				
		F/W 0-4 wks.	F/W 0-6 wks.	F/W 0-8 wks.	F/G 4-6 wks.	F/G 6-8 wks.
Males	6	1.62	1.89	2.04	2.26	2.32
	4	1.62	1.88	2.07	2.23	2.45
	Average	1.62	1.88	2.05	2.25	2.39
Females	6	1.65	1.92	2.11	2.34	2.49
	4	1.64	1.99	2.11	2.59	2.32
	Average	1.64	1.96	2.11	2.47	2.41
Av. of both sexes	6	1.64	1.91	2.08	2.30	2.41
	4	1.63	1.94	2.09	2.41	2.39

*Eight pens of 150 Vantress X Arbor Acre Crossbred chicks per treatment.

any feed energy primarily for the purpose of maintaining their body temperature. That "overhead energy" which resulted from the digestion and metabolism of feed for growth and fattening should have been ample. In fact, it would seem more likely that additional feed energy would have been required to maintain body temperature during the hot weather in the previous trial (for cooling) than would have been required at the ambient temperatures in this trial (for heating).

This merely suggests that some other explanation is in order for the increased feed intake per unit of gain observed in broilers reared at relatively cooler temperatures and that the increased Caloric requirement may be due, in part, to an increased deposition of body fat. Just what factors may influence the tendency of broilers to fatten more rapidly in cooler weather are as yet not known.

C/P ratio. From the sub-totals shown in Table 4 and data in Table 5, little difference resulted between the average weights and feed conversions of males and females maintained on rations with C/P ratios of 45:1 followed by 51.7:1 as compared with those maintained on rations with C/P ratios of 48:1 followed by 55.3:1. Rations 1-4 were "stretched protein" rations, while rations 5-8 were more nearly "full protein" rations. Nevertheless, there was little difference in methionine content per therm of energy (see Table 1) for these two groups of rations when the results are combined. Although the C/P ratios vary between these several rations, it is apparent that the "stretched protein" rations were equally as effective as the control rations (Table 5). If methionine is the first limiting amino acid, then no differences would be expected.

Time on Starter. The results obtained by sexes maintained on starting rations to 4 and 6 weeks are shown in Table 5. These results are very similar to those obtained in Trial

TABLE 7. Effect of Dried Whey Prod. (50% Lactose) on Broiler Performance

Ration	Average Weight, Lb.*					
	Four Weeks			Eight Weeks		
	M	F	Both	M	F	Both
—Dried Whey Prod.						
S-6, F-6	1.25	1.09	1.17	3.23	2.76	2.99
S-4, F-4	1.28	1.13	1.20	3.33	2.76	3.05
Average	1.27	1.11	1.19	3.28	2.76	3.02
+Dried Whey Prod.						
S-7, F-7	1.28	1.09	1.18	3.31	2.77	3.04
S-8, F-8	1.24	1.11	1.18	3.25	2.71	2.98
Average	1.26	1.10	1.18	3.28	2.74	3.01
	Feed Conversion					
	0-4 Weeks			0-8 Weeks		
—Dried Whey Prod.						
S-6, F-6	1.61	1.64	1.63	2.05	2.08	2.07
S-4, F-4	1.61	1.64	1.63	2.08	2.09	2.08
Average	1.61	1.64	1.63	2.06	2.08	2.07
+Dried Whey Prod.						
S-7, F-7	1.54	1.62	1.58	2.00	2.07	2.04
S-8, F-8	1.66	1.66	1.66	2.10	2.13	2.11
Average	1.60	1.64	1.62	2.05	2.10	2.07

*Two pens of 200 Vantress males X Arbor Acre crossbred chicks of each sex per value.

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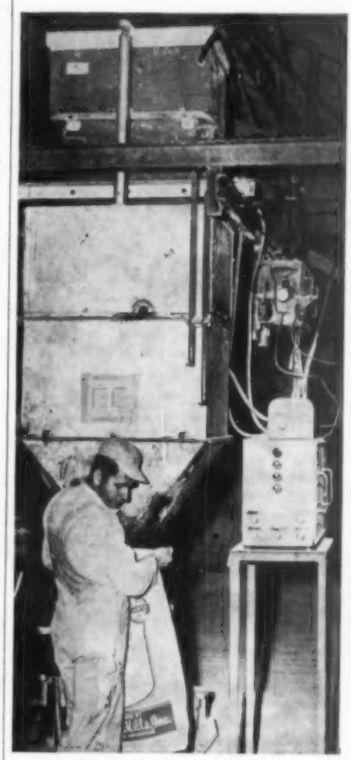

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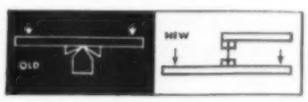

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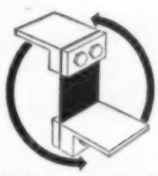

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TABLE 8. Effect of Animal Protein Supplements on Broiler Performance (S-25)

Ration Series	Average Weight, Lb.*					
	Four Weeks			Eight Weeks		
	M	F	Both	M	F	Both
Corn-Soybean Meal Type Rations						
S-3, F-3	1.23	1.08	1.16	3.30	2.71	3.00
S-6, F-6	1.25	1.09	1.17	3.23	2.76	2.99
Average	1.24	1.09	1.17	3.27	2.74	3.00
Plus Animal Protein Supplements						
S-4, F-4	1.28	1.13	1.20	3.33	2.76	3.05
S-8, F-8	1.24	1.11	1.18	3.23	2.71	2.98
Average	1.26	1.12	1.19	3.28	2.74	3.02
	Feed Conversion					
	0-4 Weeks			0-8 Weeks		
Corn-Soybean Meal Type Rations						
S-3, F-3	1.62	1.64	1.63	2.03	2.14	2.04
S-6, F-6	1.61	1.64	1.63	2.05	2.08	2.07
Average	1.61	1.64	1.63	2.04	2.11	2.05
Plus Animal Protein Supplements						
S-4, F-4	1.61	1.64	1.63	2.08	2.09	2.08
S-8, F-8	1.66	1.66	1.66	2.10	2.13	2.11
Average	1.63	1.65	1.64	2.09	2.11	2.09

*Two pens of 150 Vantress X Arbor Acre crossbred chicks of each sex per ration.

S-24, where the 8-week weights and feed conversions of females were not different, regardless of whether the starter was terminated at either 4 or 6 weeks. When the males were placed on the finishing rations at 4 weeks, both growth rate and feed efficiency were slightly poorer at the end of 8 weeks, although, in this trial, there was no effect during the 4-6 week period.

If the 4-6 week performance in both trials (S-24 and S-25) is combined, the results fail to show any differences between the "stretched" and "normal protein" rations, but the results do show differences due to time left on starting feed. During the 4-6 week period, the average gain of males for starters to 6 weeks was 0.04 lb. more (5%) for both trials with an average of 0.06 lb. less feed per unit of gain (3%) as compared with those changed to the finishing rations at 4 weeks. For females, during the 4-6 week period, an average of only 0.02 lb. more gain resulted (3½%) with 0.07 lb. less feed (3%) for both trials when kept on starting rations to 6 weeks instead of only 4 weeks. However, at the end of 8 weeks, little difference remained for males and no differences for females.

Methionine. The addition of methionine in this trial resulted in improvement in both average weights and feed conversion. The results of the last three trials (Table 9) also show a slight improvement from the higher levels of added methionine.

The 4-6 week performance in these two trials (S-24 and S-25) has also been considered in relation to the amount of methionine in the ration per therm of energy. The combined results of the rations, which were repeated in the two trials, indicate that the average gain and efficiency of feed utilization improved as the amount of methionine per therm of productive energy increased. For instance, the average 4-6 week gains with diets containing 1.71, 1.95, 2.14, and 2.17 grams of methionine per therm of energy (calculated) were .833, .836, .843, and .947 lb., respectively, for males, and .672, .694, .702, and .735 lb., respectively, for females. Although these data are insufficient to permit conclusions, they support the concept that protein level (or time on starter, which introduces different protein levels from 4 to 6 weeks) exhibits its effects only as the first limiting amino acid becomes critical.

Glycine Supplementation. The broilers which consumed ration series 2 (see Table 4) received 0.2% supplemental glycine in both starters and finishers. These may be compared directly with those which received ration series 3. Both contained methionine supplementation. No value was obtained in this trial from the addition of glycine. This is in agreement with three other trials which have been conducted at the University of Maryland, using a similar type ration.

Dried Whey Product (50% lactose). Ration series 7 and 8 differed from ration series 6 and 4 in that they contained 2% whey product (50% lactose). Ration series 8 also differed from ration series 4 in that it also contained some meat scraps. The results obtained with these rations are summarized in Table 7. No responses in average weights or feed conversions to 8 weeks were obtained from the inclusion of dried whey. These results are similar to those obtained in Trials S-23 and S-24 involving corn

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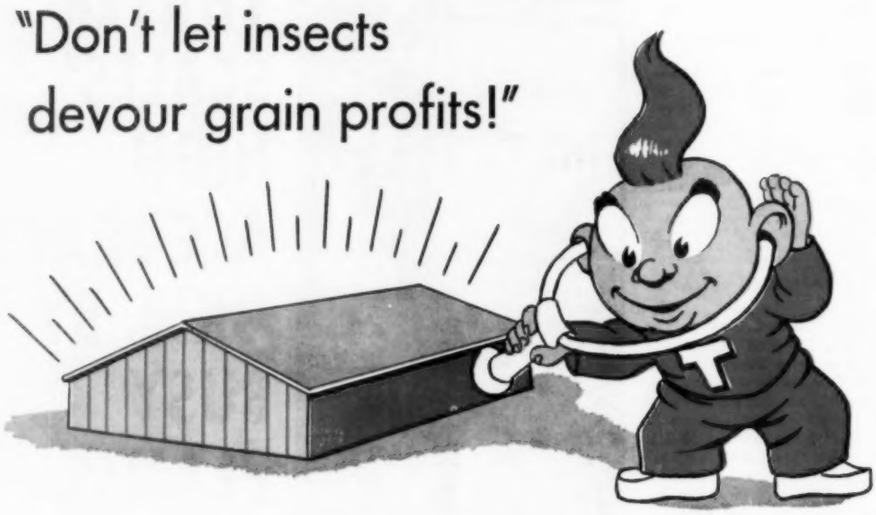

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MOO--ORE NEWS IN FEEDSTUFFS

MASTITIS TREATMENT—Shown is the display for a new Terramycin preparation for treating mastitis. The product was developed and is being marketed by Chas. Pfizer & Co., Inc., New York. In liquid form, the preparation is said to be completely soluble and fast dispersing. The display consists of a large poster and a wire rack for holding tubes and cartons (each carton contains 10 tubes). It will appear in animal health product retail stores during the next few months, according to a Pfizer announcement.

fermentation solubles, and in Trial S-7 involving dried whey.

Animal Protein Supplements. Both ration series 4 and 8 contained animal protein supplements, while ration series 3 and 6 did not. In addition, ration series 8 also contained dried whey product. These results are shown in Table 8. In this trial, there was no apparent difference in the performance of broilers fed rations with or without sources of animal protein. In Table 9, results of Trials S-23, S-24 and S-25 are summarized, comparing the results obtained with corn-soybean type rations and those containing "fish factor" or "fish and whey factor." On the average, those receiving methionine supplemented corn-soybean type rations averaged 0.06 lb. less at 8 weeks. Feed conversion, however, was not different.

Quality Observations. At 9 weeks of age all of the birds were processed at Caroline Poultry Farms, Inc., plant. Quality observations were recorded on males and females fed starting rations to either four or six weeks. The data are recorded in Table 10. No differences could be attributed to the length of time on starting rations, but some differences existed between males and females. A greater number of females than males were condemned for disease at the inspection station. When parts condemned were considered, a greater number of males than females were rejected for breast blister. On the contrary, females had a larger number of broken bones than the males. Possibly the heavier weights of the males were the cause of condemnation for breast blisters, and the more fragile structure of the female bird may be the reason for more broken bones. Differences were not noted in dressing percentages between males and females.

Reasons for downgrading at the grading station were tabulated on a small number of birds. The order of importance was: (1) skin bruises, (2)

(Turn to page 32)

TABLE 9. Comparison of Results Obtained in Trials S-23, S-24 and S-25 (both sexes)

Trial	Average 8-Wk. Wt., Lb.* Basal†	+ Meth.	Av.	Feed/Wt. (0-8 Wks.) Basal*	+ Meth.	Av.
Corn-Soybean Series (C/P 48, 55)						
S-23	2.94	2.97	2.96	2.11	2.07	2.09
S-24	2.77	2.80	2.79	2.00	1.99	1.99
S-25	2.96	3.00	2.98	2.10	2.04	2.07
Average	2.89	2.92	2.91	2.07	2.03	2.05
Fish Factor Series (C/P 48, 55)						
S-23	3.05	3.04	3.05	2.07	2.07	2.07
S-24	2.85	...	...	1.98	...	...
S-25	3.05	...	...	2.08	...	...
Average	2.98	...	...	2.04	...	...
Control "Fish and Whey Factor" Series (C/P 45, 52)						
S-23	...	3.07	...	...	2.07	...
S-24	...	2.88	...	...	1.98	...
S-25	...	2.98	...	...	2.11	...
Average	...	2.98	...	...	2.05	...

*In S-23, two groups of 400 Vantress X Arbor Acre crossbred chicks (both sexes) involved per treatment except for the —Meth., corn-soybean diet where only one group is included. In S-24, each value represents two groups of 200 male and two groups of 200 female Vantress X Arbor Acre chicks per treatment. In S-25, each value represents two groups of 150 male and two groups of 150 female Vantress X Arbor Acre chicks.

†In all trials, 0.75 lb. of DL-methionine was included in the basal rations.

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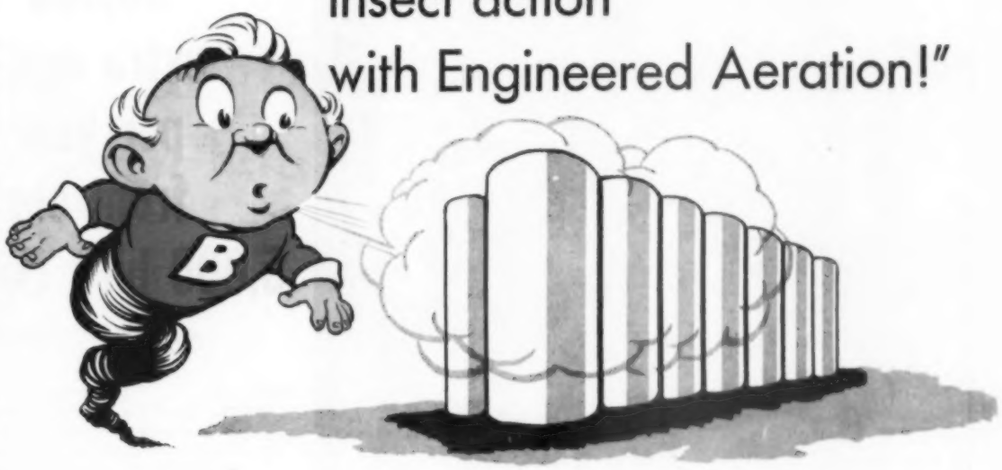

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*NOTES FROM BREEZY'S HANDBOOK:
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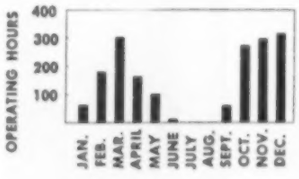

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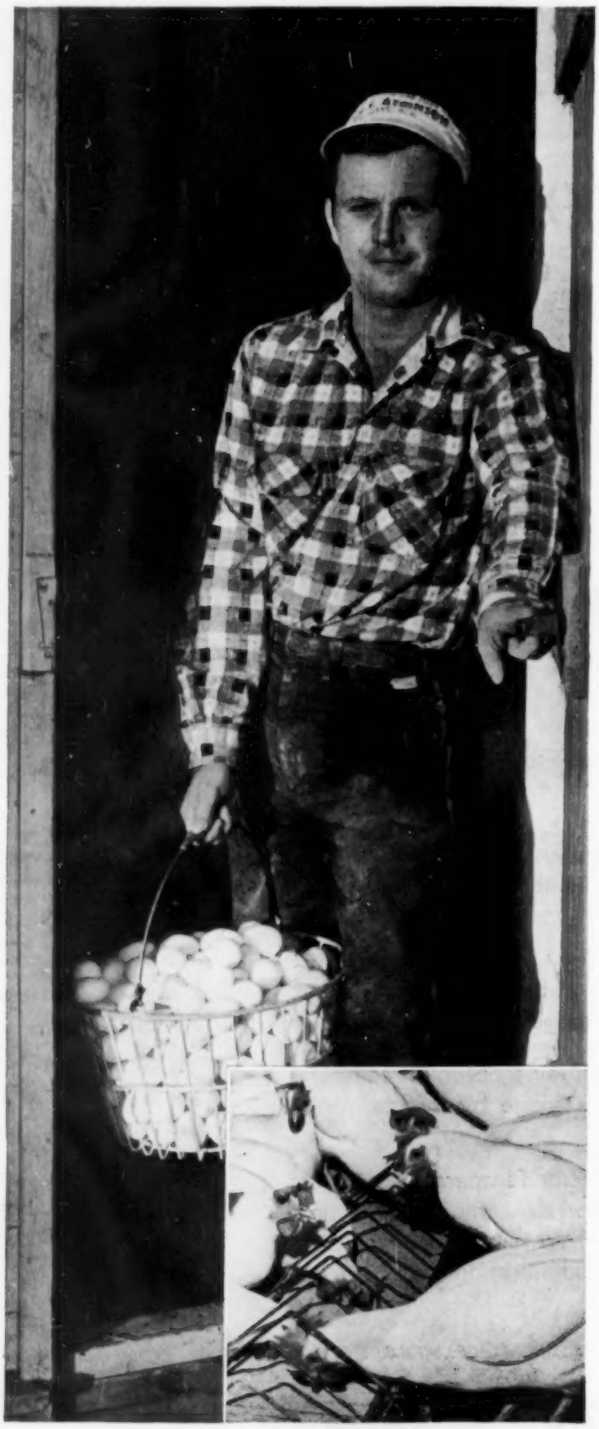

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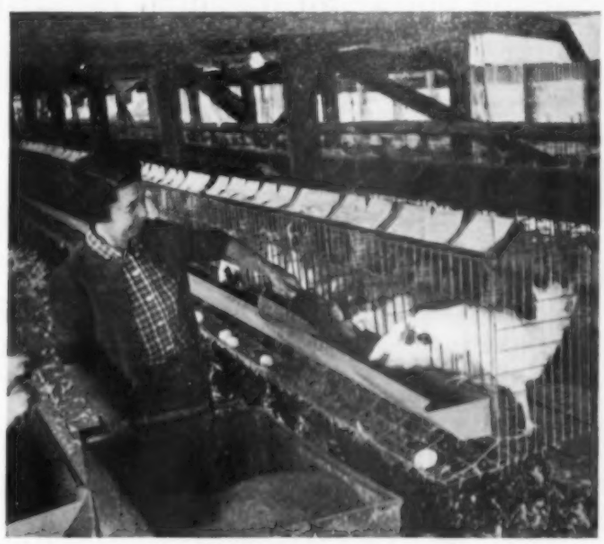

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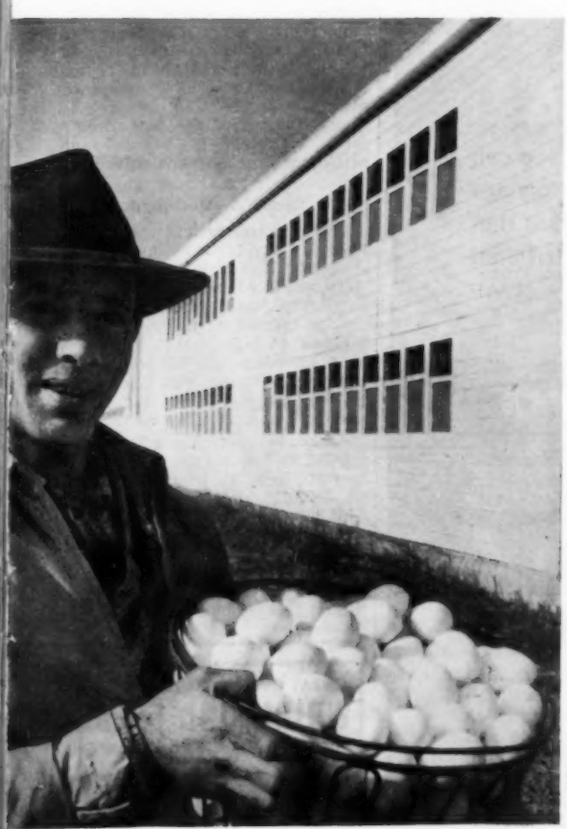

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TABLE 10. Quality Observations of Broiler Trial S-25

	Males		Females		Both series
	0-6 wk. starter	0-4 wk. starter	0-6 wk. starter	0-4 wk. starter	4 & 6 wk. starter
Live head count	1183	1186	1198	1187	4754
Dressing percentage, live farm to warm RTC	71.7	72.9	72.3	72.3	72.3
Dressing percentage, w/giblets (4 hr. chilled) live farm to RTC	74.6	76.5	76.3	76.3	75.9
Water uptake (4 hr. chilled) carcass without giblets, %	4.2	5.4	6.1	5.6	5.3
carcass with giblets, %	4.0	4.9	5.5	5.4	4.9
Condemned whole carcasses (expressed as % of live weight)	0.5	0.2	0.6	0.6	0.4
Condemned carcasses and parts (expressed as % of live weight)	0.6%	0.3%	0.8%	0.7%	0.6%

protruding feathers and (3) fleshing. After the birds were processed, they were chilled in slush ice for four hours. The average water uptake in this time was 4-5% with no difference between treatments.

Summary

These results support the observations in Trials S-23 and S-24 where similar variables were tested. The excellent results with such simplified corn-soybean meal type rations should be heartening to a broiler industry faced with the critical need for reduced production costs. Studies are now underway involving the use of heated unextracted soybeans as a replacement for added fat and soybean meal in broiler rations.

ACKNOWLEDGEMENTS

The authors are indebted to Western Cond. Co., Appleton, Wis., for supplying the dried whey product, 50% lactose; Nopco Chemical Co., Harrison, N.J., for special mix, except for glycamide; Merck & Co., Inc., Rahway, N.J., for glycamide; Mardell Poultry By-Products, Inc., Salisbury, Md., for the poultry by-products meal; the American Cyanamid Co., Pearl River, N.Y., for the Newcastle and bronchitis vaccine; and the Monsanto Chemical Co., St. Louis, for glycine; Mr. William Bratten and Mr. John Hargreaves, Caroline Poultry Farms, Inc., for cooperation with the processing of the birds.

New Bulletins

BERKELEY, CAL.—Two bulletins of interest to feed men have been prepared by the University of California division of agricultural sciences for distribution without cost.

One of the bulletins is "Beef Cattle Investigations on the San Joaquin Experimental Range," prepared by K. A. Wagnon, H. R. Guilbert and G. H. Hart. The other one is "Turkey Fertility," by Dr. F. W. Lorenz, U. K. Abbott and others. Designated as bulletin 765 and as circular 472 respectively, they can be obtained through Agricultural Publications, 22 Giannini Hall, University of California, Berkeley 4, Cal.

NTF Business Action Reported

MT. MORRIS, ILL.—A report on the business taken up by the executive committee of the National Turkey Federation at the NTF convention was recently released by M. C. Small, executive secretary of the federation.

He noted that the main item of business was adoption of the largest budget in the federation's 20-year history—$473,235.28. Other major business items included the decision to hold the 1961 NTF convention in Chicago, approval of research projects amounting to approximately $20,000, and plans for pushing enactment of the National Turkey Marketing Act in 1959.

"As in past years, the major item in the NTF budget is for the 'Eat More Turkey' promotion campaign. Federation executives trimmed expenditures in other departments in every possible way to give maximum support to this all-important program," Mr. Small noted.

"The Poultry & Egg National Board was given continued enthusiastic endorsement and support by an allocation of approximately $40,000 for turkey promotion. In 1958 support to PENB was on the same basis, resulting in total payments of about $40,000 during the calendar year."

"An allocation of approximately $122,000 was set up to be expended for advertising, promotion and public relations work through Evans & Associates, the agency which has handled this important phase of federation work for many years."

Mr. Small commented that there was considerable discussion regarding action taken by the board of directors in January that the federation should move forward in sponsoring mandatory grade labeling of market turkeys. Dr. Cliff D. Carpenter, chairman of the NTF research advisory committee, was authorized to proceed with plans for a special study, and funds were authorized to do the job.

Plans for Enabling Act

The executive committee also made plans for getting the bill for the NTF-sponsored National Turkey Enabling Act introduced in Congress as soon as possible. At the same time, federation officers reaffirmed their opposition to bills that already have been introduced in Congress by an independent group this year which provide for mandatory turkey production and marketing controls.

Financial reports presented and approved at the meeting showed total receipts from all sources amounting to $422,410, and expenditures of $464,221 for the 1958 calendar year. "The $42,811 indicated as a deficit is not a true deficit, as included in this are payments of funds that were being held in reserve for known expenditures," Mr. Small said.

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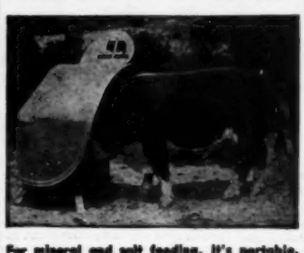

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Cow Sets New National Milk Production Mark

CHICAGO—A registered Holstein, using Wayne Test Cow for her milking ration, has completed a new national milk production record on HIR test, it was announced recently. The new record is for cows of all ages and all breeds.

King View Francy Allegra, owned by Paul J. Schintzius, South Wales, N.Y., ended a 365-day, twice-a-day milking test with 38,672 lb. milk and 1,239 lb. butterfat. According to available figures, it is a world record for milk production on twice-a-day milking.

The cow's barn name is "Elsie." She began her record lactation as a nine-year-old, and was handled throughout under practical conditions. She ran on pasture through the summer with the rest of the herd, and was a part of the regular milking string of 28 cows in lactation on the Schintzius farm, which averaged 17,401 lb. milk and 634 lb. fat.

"Elsie" broke the previous record by 3,200 lb. Only three cows of the Holstein breed have ever surpassed her record even on three or four times-a-day milking. It was the cow's fourth straight lactation in excess of 25,000 lb., and gave her a lifetime production of 161,882 lb. milk and 5,505 lb. butterfat.

Wayne Test Cow, which is a 16% dairy milking ration, was introduced throughout the Allied Mills, Inc., distribution area Jan. 1, after a period of test marketing in the East for several years. Several other dairy feeds were introduced company-wide at the same time, including Sucrene 16% Dairy, Wayne MP Pettets and Wayne 32% Dairy Krums.

CHAMPION—Being admired by Paul J. Schintzius, South Wales, N.Y., and his son, Christopher, is their nine-year-old registered Holstein cow which has achieved a new national milk production record for cows of all ages and breeds.

Bargaining Election Set

SPRINGFIELD, ILL.—A bargaining election has been ordered by the National Labor Relations Board for employees of the Illinois Farm Supply Co. feed plant here. The plant's production, maintenance and warehouse employees are to decide by vote whether they wish representation by the American Federation of Grain Millers, the United Mine Workers, or neither union. The Grain Millers and the International Assn. of Machinists were certified as joint bargaining representatives for the plant two years ago, but the IAM filed a disclaimer of interest in representing the workers after an employee petitioned for the election, showing that a number of employees were members of the United Mine Workers.

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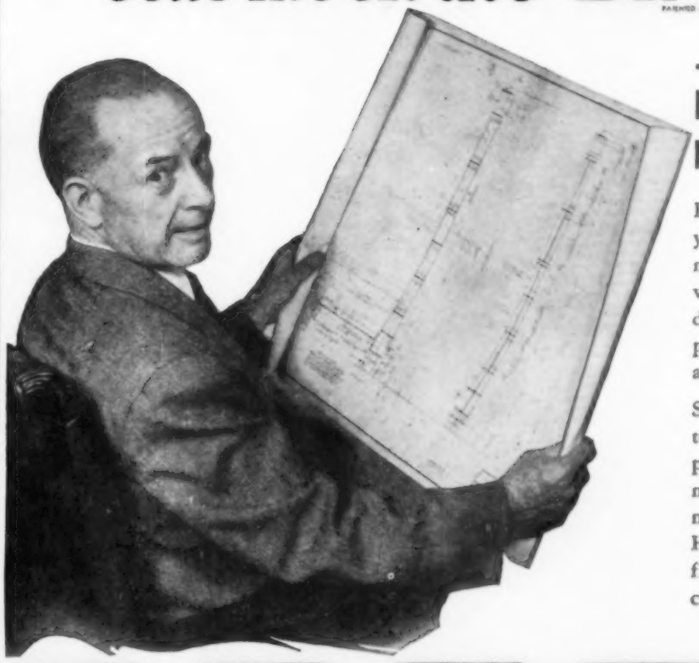
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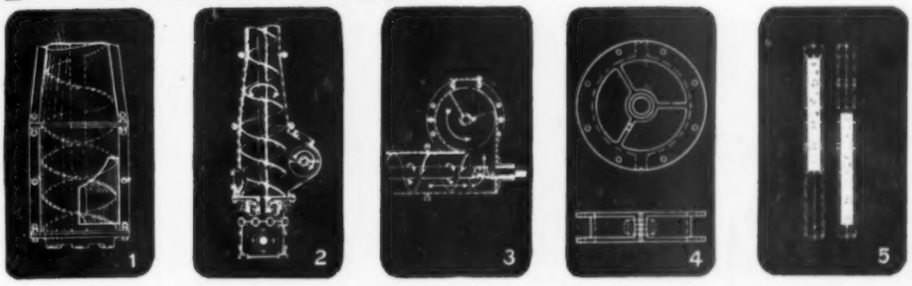

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Ohio Poultrymen Examine Their Place In Today's Rapidly Changing Industry

COLUMBUS, OHIO — Poultrymen attending the Ohio Broiler & Market Egg School held here recently were given guideposts to help them find their niche in the rapidly-changing poultry industry.

The guideposts were a series of addresses by market experts and college and industry scientists who outlined many of the sweeping economic and technological changes which are making poultry and egg production vastly different from what it was just a few years ago.

Discussed during the one-day program were trends in geographic location of the industry, trends in marketing, in financing, in growing and in feeding.

Geographic trends were discussed by Edward Karpoff, U.S. Department of Agriculture poultry authority.

He pointed out that there are few limitations on location of poultry production, and while production costs vary, the high-cost states have an advantage in marketing.

"But in actual practice," he said, "I think the choices which result in greater poultry development in location A rather than location B are made according to concepts more complicated than the foregoing. Motivations for many of the decisions aren't entirely economic, although the actions certainly have economic effects."

Mr. Karpoff said his belief is that egg and poultry meat production of the future will remain diverse in geographic location and in organization of the enterprise, with evolutionary rather than revolutionary changes in the location of the industry.

Southeast Favored

"As a personal judgment, I can recognize the southeastern U.S. as a favored area for continued expansion of broiler production, partly at the expense of the Northeast and the Pacific coasts," he said. "I can see certain types of egg production prospering in Minnesota, Iowa and Wisconson, at the expense of the smaller enterprises in the same area, and at the expense also of Northeastern producers and perhaps Pacific Coast ones also. Large-scale egg production will also be prominent in the South, where it has grown spectacularly in the past few years. For possible shifts in the location of turkey production, I have no ideas."

Age of the operators of the poultry enterprises is another factor to consider in the geographical trend of the poultry business, he said. He pointed out that more than half of the operators of specialized poultry farms were 55 or older in the 1954 census of agriculture. This age distribution probably means that many specialized poultry farms will disappear when their operators age further, because the short-term prospects for the poultry business will not appear rosy enough to attract newcomers to specialized farms. Since these specialized farms are so numerous in the Northeast and on the Pacific Coast, he believes that this is a reason to expect a reduction in the share of the nation's future egg and poultry output from those areas.

Types of Contracts

Various types of contracts used in the egg business today were described by Dr. Ralph L. Baker, agricultural economist at Pennsylvania State University. Basically, he said, there are three types of egg programs in operation. They are: (1) Contract marketing and quality control; (2) contract production, and (3) owner-integrated operations.

Contract marketing and quality control were described by Dr. Baker as a "contract to market eggs if specified production and quality maintenance practices are followed." Since candling does not do a perfect job of differentiating quality, it is necessary to follow production and quality maintenance practices that result in a high quality product. This entails a standardized strain of pullets, standardized feeding program for uniform yolk color, frequent gatherings, proper cleaning and refrigeration.

Contract production, on the other hand, is a program to produce eggs with the program operator's hens. The program operator also generally furnishes the feed while the producer generally furnishes the facilities and the labor.

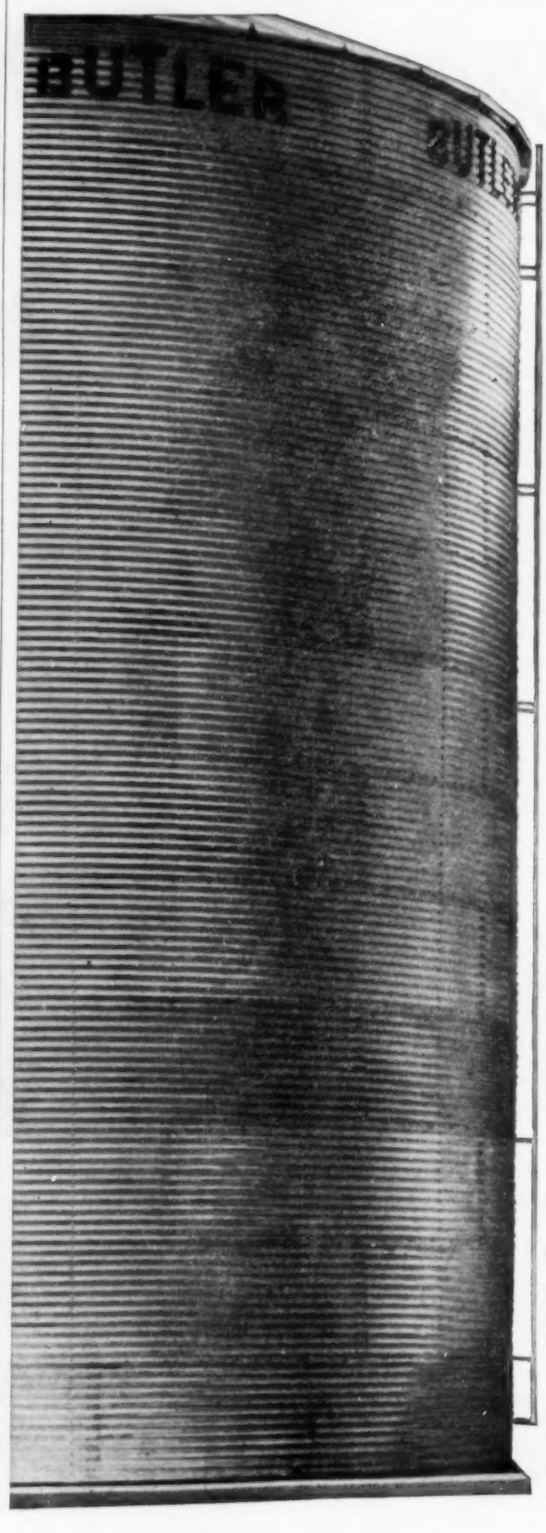
Contract production programs pay producers a specific amount per dozen or per unit of time for the use of their facilities and labor. Most of them pay from about 5 to 9¢ per dozen and most of them include incentive payments based on level of production, number of pounds of feed per dozen eggs, or level of mortality.

"Our estimates of returns among several programs studied indicate that producers who grow day-old chicks to maturity received about $1.50 to $1.80 per hen in 1958 for providing labor, facilities, litter, fuel, electricity and similar items," he said. "Producers who were furnished ready-to-lay pullets were paid from about $1 to $1.40 per hen for furnishing the same sort of thing."

The third general type of program, owner - integrated operations, are those in which the producer owns the birds, manufactures or buys the feed and hires labor to perform the operations.

He said he knows of nine operations of over 100,000 hens, and the largest he has seen contains about 250,000 hens.

These programs have developed, he said, for a number of reasons. One was the possibility for lowering the combined cost of producing and marketing eggs. Secondly, many retailers wanted to retain or increase their proportion of total egg sales by selling eggs of at least as high quality



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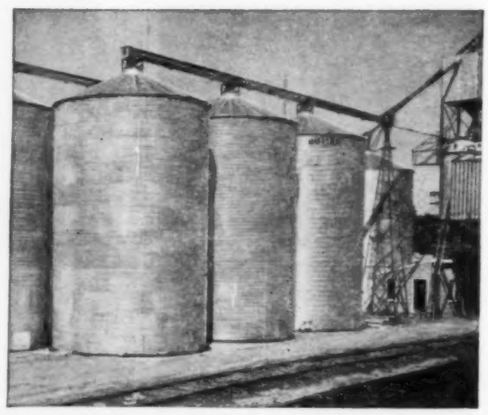

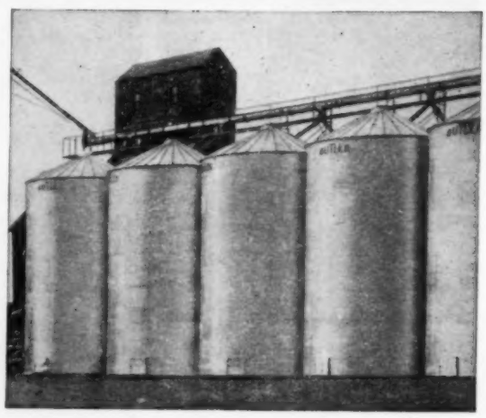

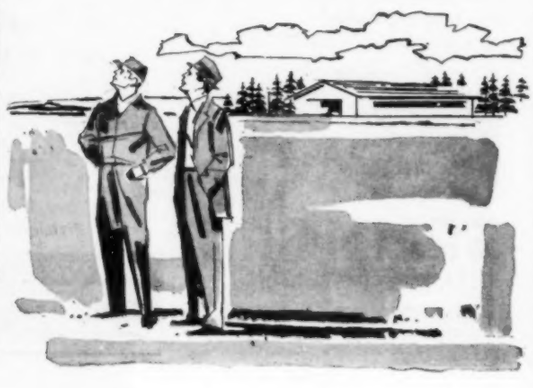

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as those of their competitors and at similar prices. The third reason he gave was that eggs produced under varying conditions cannot be standardized by candling, and the fourth was the seasonal variation in the production of sizes and qualities of eggs.

Attitudes Toward Contracts

The attitude of producers toward contracts and integration was the subject of Dr. Everett M. Rogers of the department of agricultural economics and rural sociology at Ohio State University.

His report was based on findings from a recent study of broiler contracting in Meigs County, Ohio, and in the address he asked these three questions: (1) What is the attitude of producers toward contracts? (2) What motivates farmers to accept contracts? (3) What social changes result from the spread of contract farming?

In answer to the first question, "We found that Meigs County broiler producers liked contracts. Only about 8% of those on contract expressed dissatisfaction, and the major point of dissatisfaction was that the grower thought he didn't receive an adequate price guarantee."

Dr. Rogers pointed out that at the time of the study, broiler prices were low and most growers would have been losing money without a contract. He said another reason for the high satisfaction with the contracts might lie in the low income nature of the county.

Why do farmers accept contracts? To get economic security, Dr. Rogers said. They want to reduce price and production risks. This was the chief reason given for first accepting a contract.

Contracting has had little effect on either efficiency or on mortality, he said. Some growers experienced lower feed conversions and lower mortality while on contract, but they attributed a large part of this to better feed and chicks rather than to better management.

Dr. Rogers pointed out that it actually may have been a result of integrator supervision. He also pointed out that contracts had less effect on the efficiency of already efficient growers.

Farmer-dealer relationships have not changed as a result of contracts, he said. The farmer appears to contract with the dealer he personally likes the best, regardless of the feed sold by the dealer.

Growing Replacements

Dr. E. C. Naber, poultry scientist at Ohio State University, discussed the growing of replacement pullets for egg production.

Three years of experimentation with pullet rearing methods and rations have led Ohio researchers to these conclusions, he said:

(1) Range-reared pullets were slightly superior to confinement-reared birds from the standpoint of feed consumption and mortality during the growing period, and egg production, feed conversion and mortality during the laying year. He said it is possible that range-reared birds pick up factors in fresh green feed or soil that promote higher levels of egg production than when the birds are confined to the laying house.

(2) An all-mash growing ration that contained 25 to 33% pulverized oats and did not retard sexual maturity produced pullets that laid slightly more eggs than did a higher energy grower or the grower made with larger quantities of oats.

"It should be pointed out," he said, "that none of the growing rations employed had much of an effect on retardation of sexual maturity. Therefore, these experiments do not allow us to draw conclusions about growing rations that do produce a marked slowdown in sexual maturity."

Nutrition

Dr. E. I. Robertson, director of nutrition for John W. Eshelman & Sons, Lancaster, Pa., gave attending producers a few hints on how to stay ahead of the parade in broiler production.

The first phase of the production of quality broilers, he said, is good nutrition for the breeder. Extra nutritional fortification of a breeder ration over feed used for the production of market eggs can be justified in hatchability, the vigor of the chicks and the protection afforded during early life, he said.

"The only customer who expects and demands complete nutrition in the egg is the developing embryo," he said. "After its nutritional needs are met, any surplus of nutrients within the eggs is engulfed as a legacy from the hen to the young chick."

He also pointed out that reinforced feeds provide an effective means of overcoming or reducing the ravages of stress. The grower can use a "trouble shooter" feed at a moment's notice for any condition affecting the appetite or body vigor and thereby reduce the loss of growing days for the flock.

Management is most effective in growing quality broilers, he said. With more bred-in and fed-in growth potential, growers expect and attain greater weights in broilers than at any time in the past.

ALABAMA SETS POULTRY, EGG RECORD

BIRMINGHAM—The sale of poultry and eggs exceeded $100 million in Alabama last year for the first time.

It is estimated that 130 million broilers were produced and sold for approximately $74 million. Egg sales, including commercial and hatching eggs, amounted to more than $31 million, and turkey and hen sales accounted for around $2 million. The total of $100 million does not include income from the sale of baby chicks.

Cullman County continued to hold the top spot last year with poultry income of more than $10 million.

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Diameter	Height (eave)	Capacity* (bushels)
21	18'8"	5,700
21	32'	9,600
24	16'	6,700
24	18'8"	7,700
24	21'4"	8,700
24	24'	9,700
24	32'	12,700
24	40'	15,700
36	24'	22,700
36	32'	29,600
36	40'	36,400

*Maximum capacity is determined by adding grain compaction factor, based on 60# wheat or beans to cubic measure, and filling under roof above eave. Compaction factor will vary by the test weight, type of grain and depth of grain stored.

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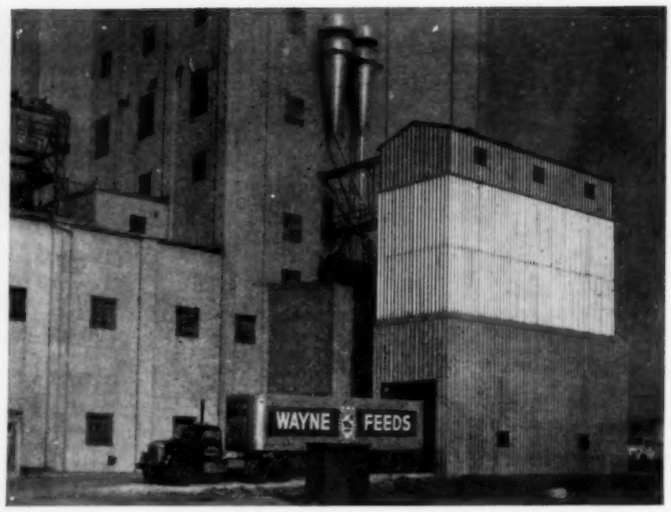

INCREASES BULK STORAGE—Allied Mills, Inc., Chicago, has announced the completion of an addition of 12 new bulk feed bins with storage capacity of 400 tons at its Wayne Feeds plant in Mason City, Iowa. The bins, shown in the foreground of this picture, were installed to speed up loading and improve efficiency, officials said.

12 Bulk Feed Bins Added by Wayne Feeds At Mason City Plant

MASON CITY, IOWA — Twelve new feed bins with a combined capacity of more than 400 tons have been completed recently and put into use at the Wayne Feeds plant here. Wayne Feeds are manufactured by Allied Mills, Inc., Chicago.

The bins, of steel construction and with a new scale directly below them, were recently completed by the Mill & Elevator Co., Des Moines. Each bin, according to Glenn Uding, local plant manager, has a capacity ranging between 35 and 40 tons of bulk feeds. With bins in use previously, the mill now has bulk feed storage capacity in excess of 500 tons.

With the addition of the new bins, 12 more types of bulk feeds can be kept on hand. In addition to being more convenient for the company's dealers, the added bins will increase plant efficiency and speed of loading, Mr. Uding said. Trucks are weighed on the new scale as they are filled from bins above, and loading time is cut by at least one-half.

The plant, which was completed five years ago, serves dealers in Iowa, Minnesota and Wisconsin. It has made "phenomenal" growth in that time, Mr. Uding said. He reported that current tonnage is more than 30% ahead of 1958.

1,566,578 readers *Will see this Ad!*

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THE SUNSHINE FEED FOR CATTLE

be higher than it is shown for weaning pigs in Table

Research News AND Review

A roundup of scientific information prepared for the feed industry
Reprinted complete from AGRAData, Vol. 2, No. 12

Pfizer

baby pig nutrition

Following progress and trends in other livestock and poultry industries, hog production is rapidly moving toward more specialization and standardization. Among other changes, there is a trend toward earlier weaning with need for highly palatable and nutritious pre-starters and starters. This poses questions of when and how to wean and manage pigs; also what are the nutritional and health requirements for pigs weaned at different ages. This report reviews and evaluates recent literature and points out trends and some practical conditions. Important nutritional developments (1, 2, 3) and some management aspects of early weaning (3, 4, 5) are reviewed.

Seven to ten days weaning.

Formulas have been worked out (3, 4, 6, 7, 8) so that pigs can be successfully weaned at seven to 10 days-of-age. Theoretically, weaning at this age has a number of advantages (3, 4): produce heavier pigs at eight weeks with fewer runts; pigs eat starter rations earlier; realize better control of anemia and scours; sows can produce up to one more litter per year; sow's feeding costs are lower; more rapid progress is made in swine breeding; less housing space is required; and more pigs are saved from being crushed by the sow as well as reduce sow losses.

Early weaning at this age, however, has some limitations: it requires expensive, highly fortified, palatable starters; it requires excellent management—pigs cannot be neglected; they must be kept comfortable with a constant supply of feed and water; it requires better-than-average equipment; and it is best to feed pigs in groups of not more than 10 to 15. At least six to eight square feet of floor space should be provided pigs until they are four to five weeks old.

Raising week-old pigs is much like brooding baby chicks. Drafts should be avoided. They should be started at a temperature of 80° F., five inches above the bedding. Temperature can be lowered five degrees per week until 60° F. is reached.

Twenty-eight day weaning.

A number of nutritionists (1, 3, 5) have reached the conclusion that it is impractical to wean pigs at a time earlier than three weeks. Weaning from three to five weeks-of-age combines many advantages of earlier weaning plus taking advantage of the sow's milk during the heavy flow—during the first four to five weeks.

Between one and three weeks-of-age, a pig's feed requirements change greatly. At this age the pig is hardier and easier to manage than a less hardy seven-day-old pig. Therefore, management requirements are not too different from the requirements of pigs weaned at eight weeks. However, the pig still needs a highly fortified pig starter.

When weaning pigs at four weeks, sort them out according to size. Do not put more than 20 pigs in one pen. Allow at least six to eight square feet of floor space per pig. Pigs need good housing, equipment and management, but no better than that which is required for raising pigs on the sows. Use solid pen partition and prevent floor drafts—keep dry, do not overcrowd.

Fifty-six day weaning.

Many pigs are still left on sows until they are seven to eight weeks or older. One of the big reasons for this is that many farmers have limited farrowing facilities and many still run three to five or more sows and litters together on pasture at least part of the year. This practice will continue on many hog farms for some time because farmers are used to this program and it fits their equipment and experience. Also, the extra pig losses are at least partly offset by lower overhead expenses and lower labor requirements under certain farm conditions.

Economics of early weaning.

Results of tests (3, 9, 10, 11) comparing feed costs or gains from weaning at one, three, five and eight weeks leave some doubt as to the economics of early weaning. From the scattered work that has been done, there appears to be little difference in total feed costs regardless of weaning age.

Earlier weaning will be more attractive from a feed cost standpoint if and when pre-starters and starters are less complicated and expensive. Some of the research results (11, 12) and field experiences indicate that earlier weaned pigs sometimes fail to reach market weight as early as pigs weaned about 56 days-of-age. However, other information (10) indicates that this is not always true.

A study of Table 1 gives a clear picture of expected performance and cost of three, five and eight-week weaning.

General Nutritional Requirements . . .

There has been much progress in arriving at specific requirements for certain nutrients. However, there are still a number of gaps in our knowledge particularly for the very young pig. Here are the more practical current aspects that are useful in formulating pre-starters and starters.

Very young pigs, particularly during the first week, have some very special requirements. Their enzyme system for breaking down certain protein and carbohydrates appear to be undeveloped (3, 8, 13, 14). Sucrose at a 50 per cent level in a purified diet causes diarrhea and severe losses (3, 15). By the time pigs are six to 14 days-old, they are able to utilize sucrose, dextrose, dextrin and starch. In another week (16) they can utilize carbohydrates from corn and oat groats. For pigs weaned at seven days, a complicated formula such as Iowa Pre-Starter "75" is used (3, 4). Undoubtedly, many nutrients and ingredients included in the formula are extravagent. More work needs to be done in developing more simplified early pre-starters for seven day weaning. Since weaning at this age is not generally practiced, the nutrient requirements discussed pertain largely to the pig from two to eight weeks-of-age.

General recommendations are to feed three to five pounds of total pre-starter and 20 to 25 pounds of starter per pig.

Carbohydrates and fat.

Corn, rolled oats and other grain products can furnish most of the carbohydrates for pigs at this age. In general, the more calories included in the diet, the greater the feed efficiency. Fat is required (17) but is usually present in sufficient amounts in pre-starters made from natural ingredients (3). Pigs seem to better digest fats high in short chain fatty acids than those of the long chain fats and oils (18).

Protein

Most of the available evidence indicates that protein and/or amino acid requirements are greatest during early stages of growth. Some amino acid requirements during the pre-starter stage may

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in some tests to improve corn-soy rations which

be higher than it is shown for weaning pigs in Table 2. Pigs require the ten essential amino acids listed in the table. However, only tryptophane, lysine and methionine are apt to be borderline in diets of natural feedstuffs (3). With care in formulation, even these amino acids are adequate without special supplementation (20). Suggested amino acid levels can be used only as guides since amino acid requirements vary both with the protein level, energy level, fortification of other nutrients, antibiotic level, environmental temperature and other factors.

Vitamins

The vitamins of practical importance in baby pig diets include the fat soluble vitamins A and D. Water soluble vitamins—riboflavin, niacin, and calcium pantothenate—should be considered in formulation along with vitamin B_{12}. The National Research Council's (NRC) requirements listed in Table 3 for vitamin A and five vitamins B are often lower than investigators have found desirable for younger pigs. Some comparative levels are shown in the table.

Minerals

General recommendations for the main minerals for baby pigs are calcium 0.8 per cent, phosphorus 0.6 to 0.7 per cent, and salt 0.5 per cent (3, 19).

Trace minerals recommended (1, 3, 19) include iron, copper, cobalt, zinc and manganese. Zinc added at 50 ppm (1, 22) is effective along with moderate calcium levels in preventing parakeratosis. Magnesium may prove to be of practical significance.

Iron dextran injections at about three days-of-age are practical and effective in preventing anemia (23, 24). A second injection and/or dirt fed in the diet appears to be even more effective (25, 26).

Antibiotics, Other Additives and Runt Prevention

Several antibiotics increase growth rate 10 to 20 per cent and save up to five per cent of the feed when added to creep feeds, pre-starters and starters (3, 27).

Oxytetracycline (Terramycin) and chlortetracycline (Aureomycin) are generally accepted to be superior. However, tests indicate good results from penicillin (28, 29, 30, 31) and bacitracin-penicillin combinations (32). Streptomycin and bacitracin alone are less effective (3).

Use of a new antibiotic as a baby pig feed additive has just been reported (33). The growth promoting action of this new antibiotic, oleandomycin, alone or in combination with oxytetracycline, was evaluated in four trials with baby pigs.

In baby pig trials with 10, 25 and 50 gm. oleandomycin per ton the daily gain increases over controls were 17, 15 and 19 per cent, respectively. In two other baby pig trials with 2.5, 5, and 10 gm. oleandomycin; 50 gm. oxytetracycline; and 2.5 gm. oleandomycin plus 50 gm. oxytetracycline per ton the daily gain increases over controls were 1.6 to 5.0, 6.6 to 8.7, 8.7 to 20 per cent; 3.7 to 5.0 per cent; and 8.3 to 20.0 per cent, respectively. Total bacterial counts on fecal samples at zero, four and six weeks in one experiment displayed no substantial differences between treated and control groups (33).

Antibiotics help control nonspecific enteritis—scours. Degree of infection or disease level determines effectiveness.

In twelve comparisons (3), an average growth stimulation of 82.2 per cent was attained when antibiotics were included in a ration for runts. Of course, adequate levels of vitamins, amino acids and other nutrients were included in these starter-type test rations.

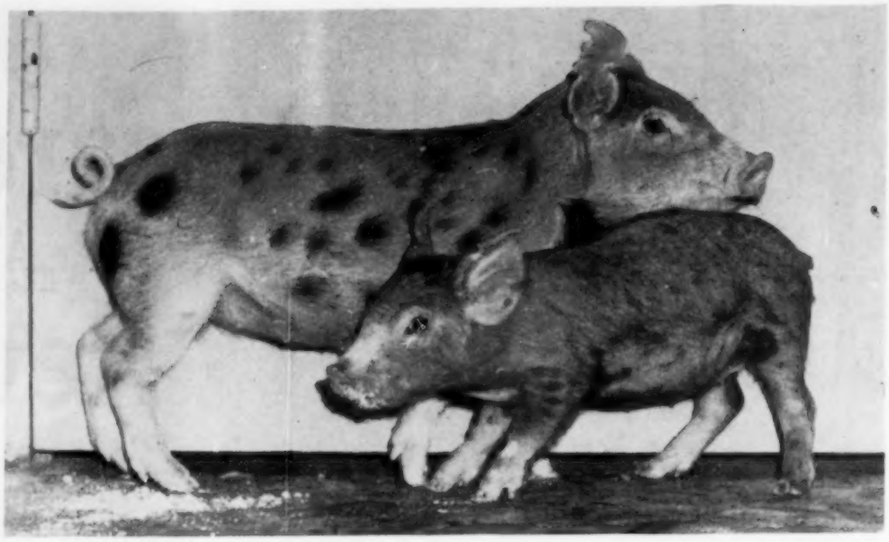
As seen in the typical pre-starter and starter rations, some starter feeds contain more than 10 grams of antibiotic per ton recommended for larger and normal pigs. Therapeutic or high level feeds for runt prevention and for treatment of infections supply up to 50 times the growth stimulation level (usually 100 to 200 grams per ton).

Arsenicals are valuable in starters and therapeutic feeds to help prevent scours and to stimulate growth and save feed (30, 34). Arsanilic acid has proven safe at higher than recommended levels (35).

Although baby pigs may not have fully developed enzyme systems for breaking down certain proteins and carbohydrates, pepsin has not generally proved of value in starters for pigs weaned over three week-of-age (3, 36, 37). Since only a small percentage of pigs are weaned under three to four weeks, pepsin is not generally used in starters.

Under most farm conditions, the use of anthelmintics at weaning time is indicated, even at four weeks weaning. Piperazine in water or feed is reasonably effective (38) although a small percentage of pigs remain wormy after treatment (12). A continuous feeding of Hygromycin for at least 45 days is effective against **Ascaris lumbricoides** (roundworm of swine), **Oesophagostomum dentatum** (common nodular worm of swine) and **Trichuris suis** (swine whipworm) (32) and is being generally used. Some nutritionists hesitate to include it in pre-starters because it may be somewhat unpalatable.

Much work has been done in recent years on unidentified growth factors for pigs. High quality alfalfa meal and pasture, fish by-products, animal protein concentrates, soil, liver, distillers dried solubles, grass juice concentrate, dried whey, various fermentation residues and various other feeds have been shown to contain growth and reproduction enhancing factors that may be different from known vitamins and other nutrients (3, 6, 7, 36). The results, however, are somewhat variable and many of these products have failed



Differences in growth of these two pigs illustrate the growth response to rations with and without Terramycin. The larger pig received Terramycin in the ration, while the smaller pig ate the same ration without the antibiotic.

Table 1

The Performance of Pigs Weaned at 3, 5, and 8 weeks of Age (1955 Spring) (9)

Lot number	1	2	3
Average age at weaning	20 days	5 weeks	8 weeks
Number of litters	7	7	7
Number of pigs alive, 3 weeks	57	61	65
Number of pigs alive, 8 weeks	56	60	65
Av. 21 day weight, lb. 1/	12.5	12.0	11.9
Av. weight-weaning + 3 days, lb.	13.6		
Av. 35 day weight, lb.	19.1	19.7	18.7
Av. weight-weaning + 3 days, lb.		21.6	
Av. 56 day weight, lb.	40.1	40.2	41.2
Av. weight-weaning + 3 days, lb.			45.1
Av. feed consumption per pig, lb. 2/			
Diet No. 1	5.36	2.47	3.08
Diet No. 2	46.06	35.37	20.15
Total	51.42	37.84	23.23
Total cost of creep and starter feed per pig 3/	$2.79	$1.99	$ 1.29
Av. feed consumed per sow, 10th to 56th day, lb.	374.7	521.6	650.6
Cost of sow feed per pig 4/	$ 1.38	$ 1.76	$ 2.06
Sow and pig feed cost per pig	$ 4.17	$ 3.75	$ 3.35
Av. loss in weight per sow, 3 to 8 weeks, lb.	0.6	15.0	19.0
Cost of sow weight loss at 12 cents per pound (average)	$ 0.07	$ 1.80	$ 2.28
Cost of sow weight loss per pig	$ 0.01	$ 0.21	$ 0.25
Feed cost plus charge for weight loss of sow per pig	$ 4.18	$ 3.96	$ 3.60

1/ Weight at 20 days for Lot 1 litters.

2/ Lot 1 pigs were fed Diet 1 as a creep feed until weaned and as a starter feed from the 20th to 28th day. A mixture of one part Diet 1 and 3 parts Diet 2 was fed from the 28th to 35th day and Diet 2 only from the 35th to the 56th day.
Lot 2 pigs were fed Diet 1 as a creep feed until weaned and Diet 2 from the 35th day to the 56th day.
Lot 3 pigs were fed Diet 1 as a creep feed prior to the 35th day and Diet 2 as a creep feed from the 35th day to 56th day.

3/ Calculated cost of Diet 1, 9.30 cents and Diet 2, 4.97 cents per pound.

4/ Calculated cost, 2.94 cents per pound.

Table 2

Swine Feeding and Nutrition

National Research Council Recommendations

Essential Amino Acid Requirements for Weanling Pigs (19)

(Live weight—25 to 70 pounds)

Amino acid	Percentage of total diet	Amino acid	Percentage of total diet
l-Arginine a	0.20	dl-Methionine b	0.60
l-Histidine a,c	0.40	dl-Phenylalanine	0.46
l-Isoleucine	0.70	l-Threonine	0.40
l-Leucine a,d	0.80	d-Tryptophan	0.20
l-Lysine	1.00	l-Valine	0.40

a This level is adequate but minimum requirement has not been established.
b Cystine can replace 40 to 53% of the methionine requirement.
c Recent studies at Purdue have shown this requirement to be 0.2%.
d Recent studies at Purdue have shown the requirement to be 0.6%.

Table 3

Vitamin Requirements of Baby Pigs (1)

Vitamin	Source	Req. per lb. Feed	Remarks
		I.U.	
A	Sheffy (1954)1	150	Good growth
		305	Restore plasma levels
		455	Min. for liver storage
A	Frape (1956)	55	Max. feed efficiency
		100	Max. weight gains
		800	Min. liver storage
A	N.R.C.2	521	For 50 lb. pig
		Mg.	
Thiamine	Miller (1955)	0.45-0.68	Per lb. dry matter
	N.R.C.	0.50	For 50 lb. pig.
Riboflavin	Miller (1954)	1.36	Per lb. dry matter
	Forbes (1952)	0.68-0.91	Per lb. dry matter (850° F)
	Mitchell (1950)	0.32-0.54	Weanling pig (54°F)
		0.59-0.82	Weanling pig (42°F)
	Miller (1951)	0.83	Adequate for weanlings
	Terrill (1955)	0.40-0.65	Weanling pig (53°F)
	N.R.C.	1.0	For 50 lb. pig
Ca pantothenate	Stothers (1955)	5.7	Per lb. dry matter
Pantothenic acid	N.R.C.	5.0	For 50 lb. pig
Pyridoxine	Miller (1956)	0.34	Per lb. dry matter
	N.R.C.	0.60	For 50 lb. pig

1. Adapted from the Cornell data through the following assumptions—0.3 mcg. vitamin A acetate equals 1 I.U.; 20 lb. pig will eat 1.2 lb. feed daily.
2. Calculated on the assumption that 0.6 mcg. carotene equals 1 I.U. and that the 50 lb. pig will eat 3.2 lb. feed daily.

Table 4

Choice of Feeds by Suckling Pigs at Illinois Station (21)

Feeds offered	Feed consumed Lb	Percentage of total eaten 1
Hulled oats	158.0	43.8
Rolled oats 75%, molasses concentrate 2 25%	73.5	20.4
Pig starter ration fed in Lot 3, Experiment 2		
Pellets	52.0	14.4
Meal	31.0	8.6
Dry skim milk 75%, molasses concentrate 2 25%	25.0	6.9

1 Percentage of total eaten when all these various feeds were placed before pigs to choose from.

2 Pure cane molasses blended with sugar cane pulp and dried.

The pigs consumed very small amounts of shelled corn, rolled oats, dry skim milk, meat scraps (55% crude protein), dry synthetic milk, pig supplement feed, high efficiency broiler ration, ground yellow corn, and soybean oil meal.

Table 5

Suggested Nutritional Allowances for Pig Feeds to 8 Weeks of Age
Iowa Station on March 1, 1957 a (3)

	Pig pre-starter	Pig starter	Pig grower	N.R.C. (19) 25 lb. pig
Weight, beginning-end, lb.	8-10	10-25	25-50	25
Protein, %	25	18	16	18
Ca, %	0.8	0.8	0.8	0.8
P, %	0.7	0.7	0.7	0.7
Vitamin A, units/lb.	2000	3000	2000	415
Vitamin D_3, units/lb.	500	500	400	90
Riboflavin, mg./lb.	5	4	2.5	1.2
Niacin mg./lb.	30	25	20	8.0
Pantothenic acid, mg./lb.	10	8	6	5.0
Choline, mg./lb.	500	450	400	400
Antibiotic, mg./lb.	30	50	25	5+
Vitamin B_{12}, mg./lb.	20	20	10	7.0

a These nutritional allowances are suggested for optimum performance not minimum requirements). They are based on the nutritional content of rations found to give satisfactory results in recent swine nutrition research. Other experiment stations, however, may recommend somewhat different levels of nutrients.

in some tests to improve corn-soy rations which contain adequate fortification of unknown nutrients. It takes considerable research to discover whether or not an unidentified factor additive is worthwhile in any particular starter ration formula. Calcium and trace minerals (39), other nutrient levels and combinations affect their value.

Palatability . . .

The importance of palatability is probably over-magnified. A normal, healthy pig should be glad to eat any combination of accepted ingredients. However, companies merchandising pig pre-starters and starters are constantly reminded of the importance of the product that pigs will eat early and will eat readily.

Sugar and molasses, hulled oats, certain milk by-products and lard have proven to be highly palatable (21, 40, 41). The value of saccharine for sweetener is debatable (3, 41, 42). Alfalfa meal, meat scraps and various milk by-products appear to be low in palatability.

Pellets appear to be more palatable than meal. It is interesting that pigs ate practically no broiler ration pellets (21).

Testing ingredient combinations for palatability is necessary if one is to be sure of palatability. Just using theoretically palatable ingredients doesn't insure a palatable product from the combination.

It is difficult to appraise palatability of a pig starter in the field because habits and health of the pigs, milk production of the sow, and intelligence and herdsmanship on the part of the feeder may over-shadow small variations in palatability of feed. Pigs getting plenty of sow's milk are often two weeks old before they care for feed. Anemic pigs and pigs sick from chronic erysipelas or with lung and intestinal infections have poor appetites. This increases the difficulty in evaluating palatability of a starter in the field. Another perplexing observation is that pigs will eat a theoretically less palatable feed mixture from their mother's trough or feeder and let the tasty pre-starter go.

Pig shows rough hair coat and unthrifty condition due to a pantothenic acid deficiency in diet. Pigs on pantothenic acid deficient diet frequently exhibit severe diarrhea as well as loss of appetite.

Typical Pre-Starter and Starter Rations . . .

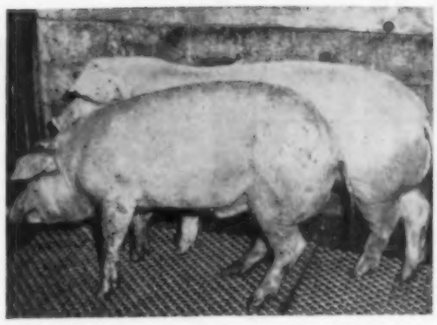
In formulating pre-starters and starters, it is first necessary to meet nutrient requirements. This can be done largely from NRC recommended allowances (19). However, a number of investigators feel that several of the nutrient levels should be increased. Information in the tables, or from similar sources, is useful in arriving at nutrient levels to be attained.

The differences in the addition of vitamins and special ingredients between various pre-starters are examples of how much authorities differ in their ideas about fortification. In commercial pre-starters and starters, it is customary to use rather low levels of alfalfa meal, milling by-products, and one or more of the other unidentified factor products discussed under "other additives."

Pig pre-starters are essentially made up of easily digested grains, dried skim milk, unidentified growth factor-containing products and dried whey. When fed a pre-starter with these products in proper balance, pigs often gain a pound for each pound of feed consumed while on their mothers. It takes something over a pound of feed per pound of gain for the three to five pounds of pre-starter which is usually fed. Husky 18 to 25 pound, four to five week-old pigs will gain about a pound a day on two pounds of feed or less on modern pig starters.

Future Aspects in Nutrition and Management . . .

Formulas and know-how are available for weaning week-old pigs. However, so far very early weaning has not proved practical enough to be widely practiced. It is entirely possible that much simpler (milk substitutes) formulas can be devised which will make weaning at this age more attractive.



Pig in foreground lost hair coat due to biotin deficiency. The pig in background was fed same diet with biotin added.

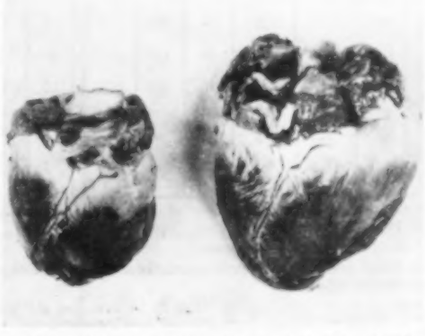
Since most authorities agree that four to five week weaning is practical and since more and more swine growers are weaning at this age, most of the attention in this paper has been focused on pigs weaned at three to five weeks-of-age. Weaning at this age is doing a lot to standardize hog production. This trend will continue as new information is gained on numbers of pigs that can be successfully housed together, floor space, feeder space, housing and ventilation requirements. As more work is done and experience is gained in housing and management aspects, weaning at about one month-of-age will become even more popular. It is expected that an increase in air conditioning for summer and supplemental heat for winter will be new developments in management practices. There will, undoubtedly, be some ingenious schemes to do this at low cost.

One of the biggest boons to commercial swine industry has been the development and widespread use of highly fortified pig pre-starters and starters. A few years ago there was a higher percentage of runts than is the case today, and there were also more cases of scours. Nutritionally adequate and palatable starters have contributed toward the reduction of these problems. Before the introduction of iron dextran, hog raisers probably had a higher incidence of anemia than was previously recognized. Modern anthelmintics are doing a great deal to prevent severe worm damage that was once very costly. We can expect even better and more economical products for doing these jobs.

Some investigators believe in the principle that a starter cannot be too good. However, much simpler and just as effective pre-starters as those generally used today will probably be made. Palatability and the use of rather expensive ingredients are over-emphasized because of the psychological advantage realized by popularization of this information in the trade press. The performance obtained from properly fortified corn-soy diets for even healthy two to three week-old pigs has been good.

Considerable field experience might suggest that the continuance of extra fortification, generation after generation, may lead to less hardy pigs. It is entirely possible, through the use of simpler rations and limited feeding, to develop strains of hogs and feeding practices that are more efficient than practices in use today. Contrary to some previously held ideas, there is beginning to be some indication that including some fibrous feeds or otherwise limiting the total feed to young pigs may condition them to better utilization of less expensive feeds later.

In general, the emphasis seems to have been more expense and less time. It is entirely possible that there are some contributions to be made in working toward less expensive feeds along with some practices that may actually produce a superior market hog with less total cost and with very little more time. The place to start might possibly be with pig starters and with baby and weanling pig management.



Enlarged heart at right of photo is due to thiamine deficiency in the ration. Heart on left was from pig fed the same ration plus thiamine.

Cracks in feet can be induced by feeding a biotin deficient ration.

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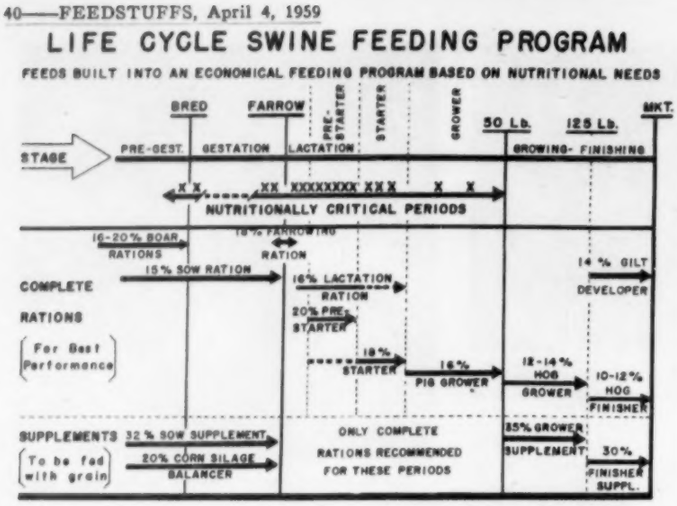

Iowa Swine Feeding Suggestions

AMES, IOWA — New Iowa State College swine nutrition research findings and suggestions on feeds and feeding programs were outlined at the recent Swine Production Conference at the college. (Feedstuffs, March 7.)

In connection with the event, the college's swine nutrition section issued its ninth revision of a publication called "Applied Life Cycle Swine Nutrition."

The accompanying charts are from that publication.

The Iowa scientists noted that swine feeding has become a complex science, and for maximum success the hog feeder must follow a planned program that includes the complete life cycle of the animals.

The information in the publication is designed to guide feeders and also to provide feed manufacturers and mixers with the latest recommendations of the swine nutrition section at Iowa State.

Included in the booklet are information and illustrations on the principles of life-cycle nutrition and feeding program, data on nutritional requirements and ingredients for swine rations, suggested formulas for various types of swine feeds at various states of the life cycle and grain and supplement mixing charts.

One of the accompanying charts is a diagram of a suggested life cycle swine feeding program. Some further details on the program are given in a second chart. And in the third chart, the Iowa nutritionists present suggested data on the nutritional requirements of swine.

I. S. C. Swine Feeding Program Chart

Stage of Life Cycle	Length of Feeding Period	Weight (lb.) Beginning	Weight (lb.) End	Feed % Protein	Feed Name	Amount of Feed Needed (lb.)	Feed per lb. Gain
PRE-GESTATION	2 - 3 weeks	-	-	15%	Complete Ration	(per head daily) 7-10 lb. for Gilts 5-8 lb. for Sows	-
				32%	Sow Supplement	2.75 lb. for Gilts 2.25 lb. for Sows	-
GESTATION	112 - 114 days	(Sows should gain 100 lb. for 5 wk. lactation - 50 lb. for 3 wk. lactation.)		15%	Complete Ration	(per head daily) 7-10 lb. for Gilts 5-8 lb. for Sows	-
				32%	Sow Supplement	2-2.75 lb. for Gilts 1.25-2.25 lb. for Sows	-
BEFORE & AFTER FARROWING	3 days before & 3 days after farrowing	(40 -50# weight lost at farrowing)		18%	Complete Sow Farrowing Ration	6-10 lb. per head daily Full fed from 1st day after farrowing! (total 50 lb.)	
LACTATION	Wean anytime between 3-5 weeks after farrowing	Wt. loss 0-75 lb. depending on initial condition of sow, litter size & length of lactation		16%	Complete Sow Lactation Ration	Full fed! 10-16 lb. per head daily depending on size. Total feed 210 - 560 lb. depending on length of lactation, sow and litter size.	-
PRE-STARTING	1 - 3 weeks	10 lb. (weaning minimum)		20%	Pre-Starter	3 to 5 (total)	1.0-1.25
STARTING	3 - 5 weeks	up to 25		18%	Starter	25 (total)	1.2-1.5
GROWING	5 - 8 weeks	25 to 50		16%	Grower	50 (total)	1.75-2.25
GROWING-FINISHING (Least-cost Ration)	Varies (only least cost considered)	50 to 200		Variation controlled from 9% to 21% based on cost.	Complete Custom-Mix Rations (for most econ. gains, less regard for time)	Varies (only least-cost considered)	Varies (only least cost considered)
GROWING-FINISHING (Least-time Ration)	8 - 15 weeks	50 to 125		14% 50 to 125 lb.	Complete Mixed Rations (For fastest gains, less regard for cost. Fixed protein levels based on new standards.)	225 to 240	3-3.2
	15 - 20 weeks	125 to 200		12% 125 to 200 lb.		260 to 285	3.5-3.8
GROWING-FINISHING Balanced Supplement and Grain	8 - 21 weeks	50 to 200		Total ration varies 9-20% based on pigs appetite.	Sh. Corn & 30-35% Supplement Self-Fed Free Choice (Greatest simplicity. Efficiency varies.)	50 to 100 lb. Supplement + Grain or 500 to 600 lb. complete ration per head from 50 to 200 lb. B. W.	3.3-4.0

Nutritional Requirements of Swine (1)

Stage of Life Cycle	Weight (lb.) Begin	Weight (lb.) End	Percent Protein	Percent Ca	Percent P	Units per Pound Vit. A 2/ (Carotene)	Units per Pound Vit. D2	Milligrams per Pound Ribo-flavin	Panto-thenic Acid	Nia-cin	Cho-line	Thyro-protein	mcg/ lb. Vit. B12	grams/Ton Anti-biotic(s) 3/	% 3N4HPAA
Boars 4/	over 30		16 - 20	0.80	0.60	3,000 (7,500)	500	3.0	9	30	450	-	10	25	-
Gilt Developer	150	250	14	0.70	0.55	2,000 (5,000)	400	2.5	6	20	400	-	10	0	-
Sows Pre-gestation & Gestation	-	-	15	0.70	0.55	2,600 (6,500)	500	2.0	8	15	400	-	10	0	-
Farrowing			18	0.90	0.80	10,000 (25,000)	500	3.0	12	30	450	100	10	50	-
Lactation	-	-	16	0.90	0.70	10,000 (25,000)	500	2.5	10	20	400	100	10	50	-
Baby Pigs Pre-Starter 5/	to	12	20	0.70	0.55	3,000 (7,500)	500	5.0	10	30	500	-	20	100	-
Starter 5/	12	25	16 - 18	"	"	3,000 (7,500)	500	5.0	10	30	450	-	20	100	-
Grower 6/	25	50	16	"	"	2,000 (5,000)	400	2.5	6	20	400	-	10	50	-
G-F Hogs Hog Grower 6,7/	50	125	12 - 14	0.65	0.50	500 (1,250)	300	2.0	5	15	-	-	5	—	0.0025
Hog Finisher 7/	125	200	10 - 12	"	"	500 (1,250)	300	2.0	5	15	-	-	5	--	0.0025

1/ The nutritional requirements above are suggested for optimum performance (not minimum requirements). They are based on the nutritional content of rations found to give satisfactory results in recent swine nutrition research.

2/ About 2.5 times as many I.U. of pro-vitamin A (carotene) as true vitamin A are needed.

3/ Antibiotics and 3N4HPAA (3-nitro, 4 hydroxyphenyl arsonic acid) are not considered nutrients. Level used depends on the disease level, stage of the life cycle and/or level of interrelated nutrients.

4/ Growing boars require about 2 percentage units more protein in their total rations than do barrows and gilts of comparable age and weight. Alpha-tocopherol (source of Vit. E) may be added at 2.5 mg. per pound of total ration.

5/ If less than 40% dried skimmilk is used in the total ration, add proteolytic enzyme of choice.

6/ Include 2 pounds of copper sulphate ($CuSO_4$) per ton of total ration to improve gains and feed efficiency.

7/ Use higher levels of protein and 3N4HPAA to obtain leaner carcasses.

North Carolina Feed Tonnage Up in 1958

RALEIGH, N.C. — North Carolina feed tonnage for calendar 1958 showed a 23% increase over calendar 1957, the North Carolina Department of Agriculture reports.

Tonnage in 1958 totaled 1,596,451, compared with 1,300,595 the previous year.

The largest increase was in poultry feeds, which combined to account for almost two thirds of the total feed sold. Broiler and other poultry mashes combined totaled 1 million tons in 1958. A year earlier, the total was about 800,000.

Hog feeds and concentrates showed a gain of about 35% during 1958.

Following is a breakdown by types of feed:

North Carolina Feed Tonnage

Feed—	1958 tons	1957 tons
Horse and mule feed	9,238	7,588
16% Dairy feed	61,664	53,386
Other dairy feed	55,919	52,415
Dairy supplement	8,893	13,965
Cattle and sheep feed	6,358	5,981
Poultry scratch grain	43,905	48,394
Poultry broiler mash	562,265	442,107
Other poultry mash	441,485	367,767
Turkey mash	29,411	25,612
Other turkey feed	9,881	8,259
Hog feed	98,142	68,550
Hog feed concentrates	59,577	47,598
Dry dog food	21,402	19,001
Oat products	4,855	2,265
Oil seed meals	244	323
Cottonseed meal	30,458	33,923
Peanut meal	1,366	918
Soybean meal	34,139	5,671
Wheat by-products	64,338	40,233
Other meals	208	11
Packing house by-products	5,553	4,280
Brewers and distillers products	68	398
Mineral feeds	16,697	8,541
Other feeds	30,385	43,409
Total tonnage	1,596,451	1,300,595

More Dairy Farming Reported in Georgia

MACON, GA.—Georgia's annual income from dairying has almost doubled in the past 10 years, University of Georgia extension specialists reported recently, and should reach $75 million by 1965.

John Connor and Herbert Warburton, dairy marketing specialists, have collaborated on a plan whereby Georgia dairy farmers can realize that income from 325,000 cows producing 6,000 pounds of milk per year within the next six years.

In urging active committees in all counties where dairy farming is of major importance, the specialists declared the dairy marketing program in Georgia must include broader markets, better selling and improved consumer relations as to the value of milk and other dairy products.

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The ALL NEW SECO "PUSHBUTTON"

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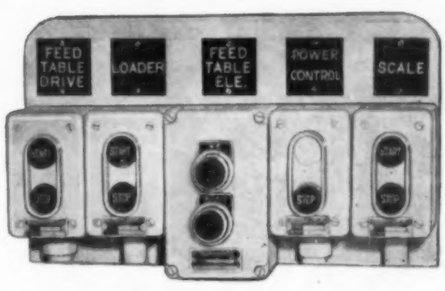

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Leonard Cordes, Manager
FARMERS GRAIN & SUPPLY
Ulysses, Nebraska

To PROGRESSIVE FEED DEALERS

We bought our first carload of Big "H" Feeds, manufactured at Honeggers' New Plant in Lincoln, Nebraska, last year. We have bought many more since then.

The response of our farmers to Honeggers' fine feeding programs has been so tremendous that we bought four full cars of feed during a recent Trainload Promotion.

We are also very enthusiastic about Honeggers' Complete Program of Livestock and Poultry Equipment, Honegger Farm Buildings, as well as being able to sell National Champion Honegger Layers.

There is no finer program that we know of anywhere. We have doubled our tonnage with Honeggers' Complete Program and we know that any progressive feed dealer anywhere can do the same.

Leonard Cordes
FARMERS GRAIN & SUPPLY

No other feed company in America has so much to offer! →

EXCLUSIVE TERRITORY protection gives the Honegger Dealer plenty of room to grow. A piddling dealer at every little crossroads is not Honeggers' idea of effective distribution.

DEALER TRAINING schools at Fairbury-Forrest and monthly district meetings help Honegger dealers and their sales personnel make sales through service. Their know-how and self-confidence makes selling easy, more effective.

SALES ASSISTANCE from well trained, enthusiastic district managers produces new business and keeps Honegger dealers inspired. Product specialists, such as building and equipment salesmen, help dealers close big sales.

LOCAL PROMOTIONS and "Planned Selling" that move 75-150 tons of feed out of the dealer's stores are not uncommon for Honegger dealers—with bulk of business on cash basis, too. Honeggers help plan and man open houses, hay-makers and ice breakers.

TRIPLE YOUR PROFITS

What others have done....you can do also WITH HONEGGERS' COMPLETE PROGRAM

➔ Write, phone or wire collect for complete details . . . *DAY or NIGHT*. . . Do it today!

SINGLE SOURCE OF SUPPLY gives Honegger dealers over 190 products sold by no one else in his territory. Combination shipments reduce freight costs, cuts dealer's equipment inventory because you are only a few days away from Honeggers' warehouse.

HONEGGER RESEARCH FARM has attracted over 40,000 visitors in past ten years. Practical research and convincing demonstrations here keep dealers and customers sold on Honegger know-how, and produce more dealer profits!

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BULK FEED SERVICE at Honeggers' employs king-sized fleet of hopper cars and modern bulk trucks. Honeggers' bulk farm bins are profit-makers that help dealers sew up business.

List of Suggested Warnings for Drug Labels Published

WASHINGTON—A compilation of label warning statements for drugs and products containing drugs—including animal health products and some feeds—has been published in the Federal Register by the Food & Drug Administration.

FDA points out that the statements have been drawn up as a guide to manufacturers of drugs and drug-containing products in devising labels which meet the requirements of the Federal Food, Drug and Cosmetic Act.

The list of more than 100 suggested warnings was published in the Federal Register to provide opportunity for comment on the suggested wording of warnings not previously published. The statements cover an extensive list of drugs, including those for animal use, and several therapeutic devices.

Under the Food, Drug and Cosmetic Act, officials indicated, it is not deemed necessary that a feed manufacturer follow a labeling recommendation word for word as long as the label gets across to the purchasers the protective idea FDA says is necessary. However, in the case of product liability which is not seen as an FDA responsibility, it may be appropriate to adhere strictly to the FDA labelling requirements as an additional safety factor.

FDA officials say that such warnings as may affect the feed industry are probably widely known, but it is wise for feed manufacturers to check back against warnings on labeling which have already been issued in regulations of FDA now outstanding.

It is pointed out in an FDA announcement that the act states: "A drug or device shall be deemed to be misbranded unless its labeling bears . . . such adequate warnings against use in those pathological conditions or by children where its use may be dangerous to health, or against unsafe dosage or methods or duration of administration or application, in such manner and form as are necessary for the protection of users. . ."

FDA emphasized that publication of the list as a proposal does not affect the necessity for compliance with the requirement that drugs be labeled with adequate warnings.

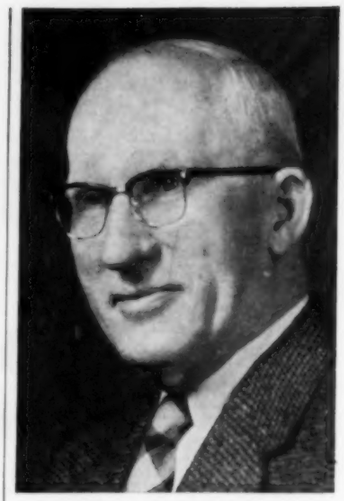
Labeling Responsibility

John L. Harvey, FDA deputy commissioner, pointed out that except where the wording of a warning is specified by law or by regulation or by an effective new drug application, it is the drug manufacturer who is responsible for choosing the wording of the warning. Mr. Harvey said that the suggested warning statements merely state what FDA considers to be one way of complying with the law.

It was noted in the FDA announcement that the new compilation should be helpful to any drug firm planning to begin distribution of an over-the-counter drug not previously in its line, and should make it easier for all drug firms to review their labels, change those appearing not to meet legal requirements, and avoid possible future litigation.

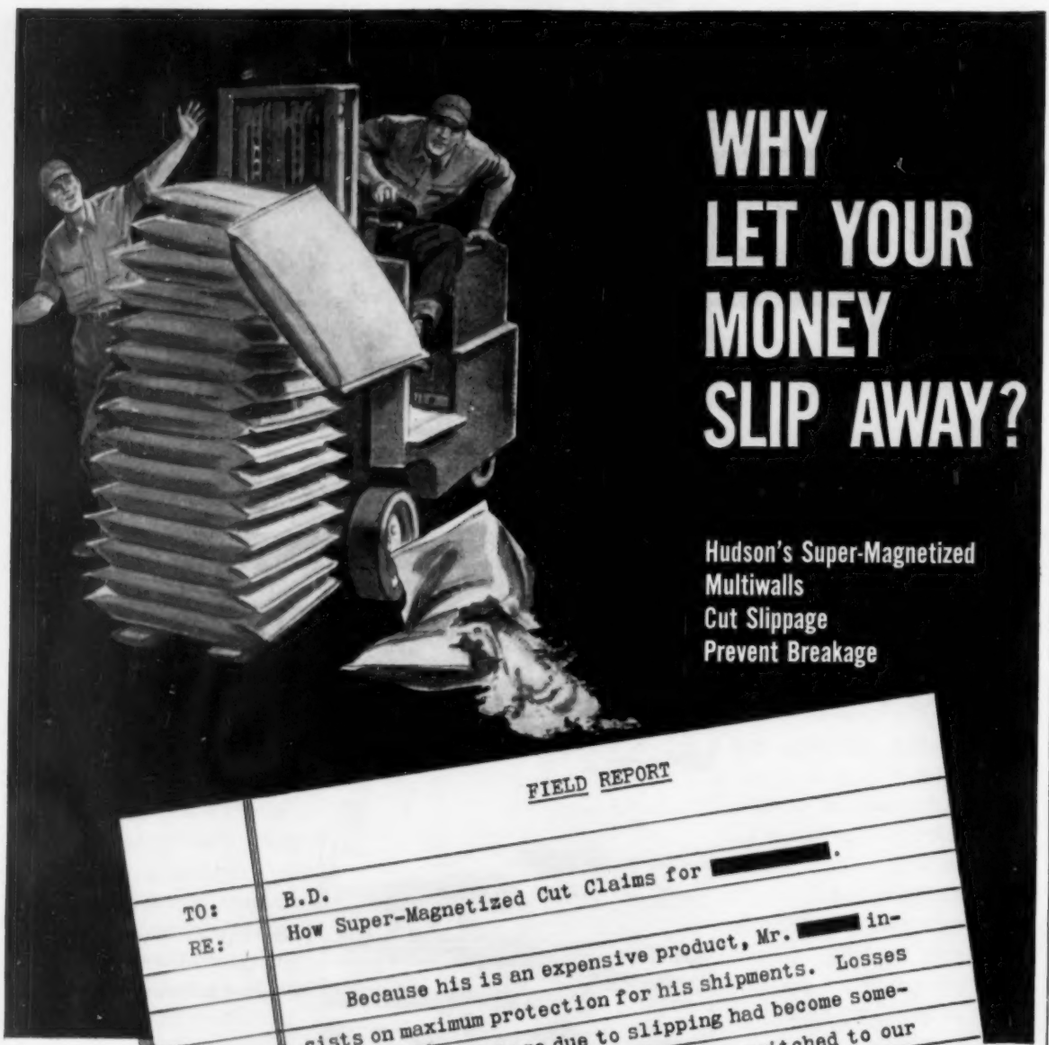
In publishing the proposed warnings, FDA emphasized that they do not cover all over-the-counter drug products subject to label warning requirements. Additional warning or caution statements may be necessary. The FDA will continue to advise individual manufacturers on specific labeling questions.

Sixty days are allowed for comment on the suggested warnings. It is planned to issue the warnings in a looseleaf service like that used to keep the industry up to date on changes in the antibiotics and new drug regulations.



Dr. Gustav Bohstedt

IN RETIREMENT — Dr. Gustav Bohstedt, visiting professor of animal industries at Southern Illinois University, has retired for the second time. He first retired in 1957 from the animal husbandry department at the University of Wisconsin, where he had been on the faculty for nearly 35 years. A native of Guissau, Germany, Dr. Bohstedt had a distinguished career as a teacher, researcher and writer in the field of animal husbandry, and is internationally known for his work in animal nutrition. He once taught at Iowa State College, and was chief of the animal industry department at the Ohio State Experiment Station for 7 years in the early 1920's. He holds B.S., M.S., and Ph.D. degrees from the University of Wisconsin.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Contracts and Contract Farming In the Egg Business

- *Contract marketing and quality control*
- *Contract production*
- *Owner-integrated programs*

By Dr. Ralph L. Baker
Pennsylvania State University

I feel extremely fortunate to have had the opportunity of spending six months with the U.S. Department of Agriculture studying egg programs. We interviewed people who were participating in programs in all major egg-producing areas of the U.S. We were interested in finding out why programs were started and what they entailed. Most of this report is based on the USDA study.

Most of the ingredients of the programs are not really new. It is largely a matter of forward-looking people putting the ingredients together in a new way and coming out, in most instances, with more efficient production and marketing programs.

EDITOR'S NOTE: The accompanying article, which is from an address given by Dr. Baker, agricultural marketing specialist at Pennsylvania State University, is based on a six-month study of egg programs made by Dr. Baker in cooperation with the U.S. Department of Agriculture. The address was given at the recent Fact Finding Conference of the Institute of American Poultry Industries in Kansas City. In the article, Dr. Baker points out three basic categories of egg programs—contract marketing and quality control; contract production, and owner-integrated programs. After defining the three types of programs, he measures their probable impacts on the egg industry and finds that all segments of the industry will be affected. Feed men seeking information on trends and the possible outlook for the poultry industry will find this article interesting and informative.

Open market operations have not solved many of the problems of quality control or seasonal distribution of egg production. Nor have conventional operations minimized combined costs of egg production and marketing. These shortcomings of conventional operations have provided the opportunity for increased incomes to developers of integrated programs.

These programs can be roughly divided into three categories. They are: (1) Contract marketing and quality control; (2) Contract production; (3) Owner-integrated.

CONTRACT MARKETING AND QUALITY-CONTROL: Contract marketing and quality-control is a contract to market eggs if specified production and quality maintenance practices are followed. These operations are much like those used in industry for many years. I grew up on a farm near Dayton, Ohio. Several of the people in our neighborhood were working in tool factories in Dayton. These companies were making parts for other companies on a contract basis. None of them, to my knowledge, were simply producing something and hoping it could be sold. Their products met definite specifications and were delivered at specified times. This is besically what we have in contract marketing and quality-control in eggs.

There are many provisions in these contracts but the basic quality specifications are: (1) A strain of pullets which will produce eggs of good interior and shell quality. (2) A standardized feeding program to obtain eggs with uniform yolk color. (3) Frequent gathering. (4) Proper cleaning to prevent spoilage after the eggs get into retail channels. (5) Refrigeration to retain original quality.

These programs usually pay producers a premium. In most instances the prices are based on a central market quotation.

Financing is not a major factor. Laying mash financing is usually limited to open-book accounts with payment in 30 days or at the next delivery of feed. A few of the programs finance the feed for growing pullets. Most have financing available for egg room coolers.

Many of the egg marketing organizations are highly integrated. Most sell feed, supplies and equipment. Some sell chicks.

These programs are most prevalent on the West Coast and in the Midwest. There are some in the Northeast and South.

CONTRACT PRODUCTION: Contract production is a contract to produce aggs with the program opera-

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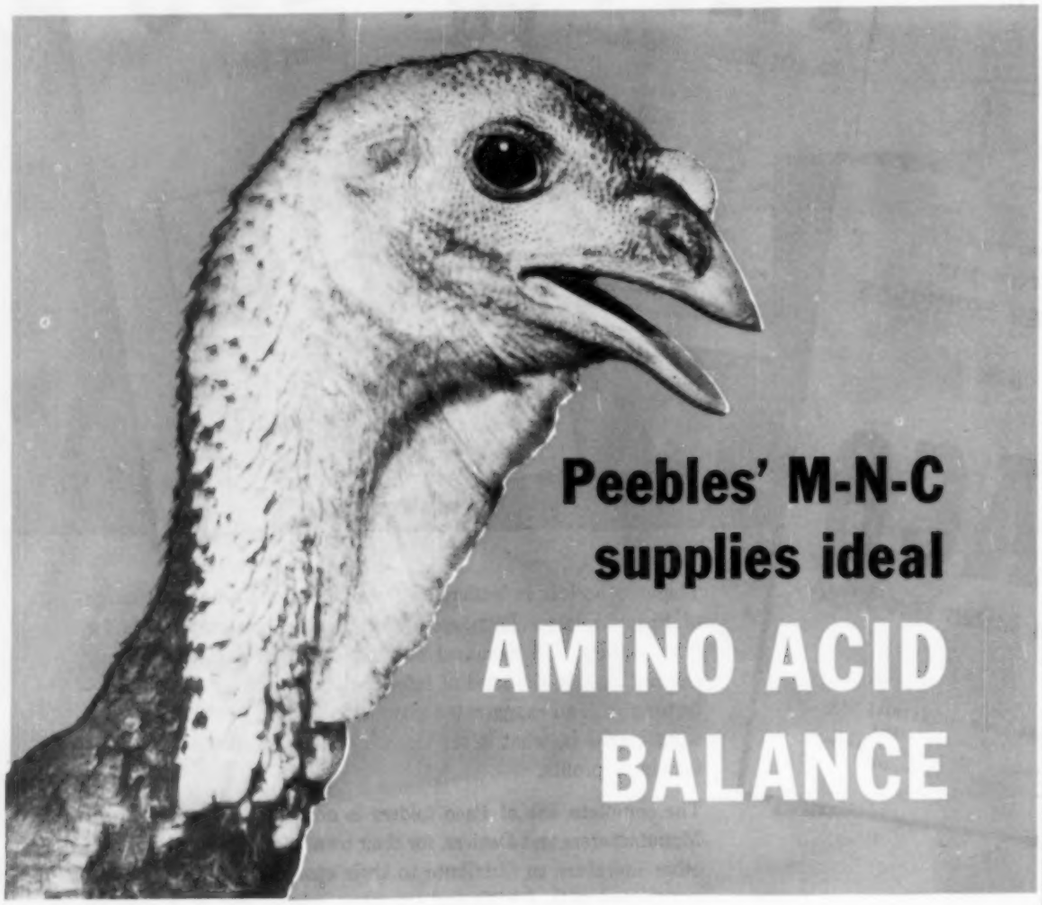

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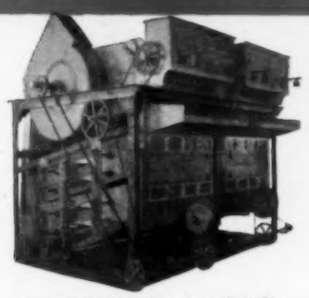

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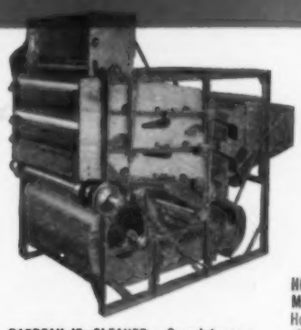

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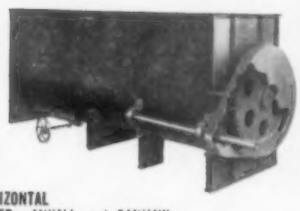

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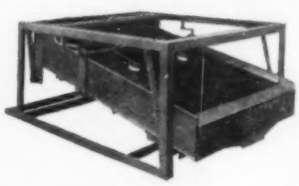

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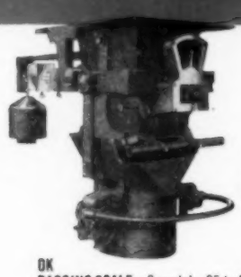

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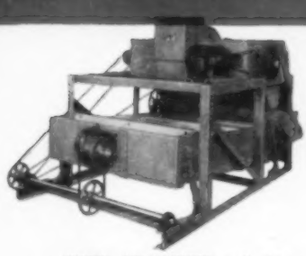

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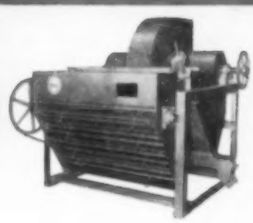

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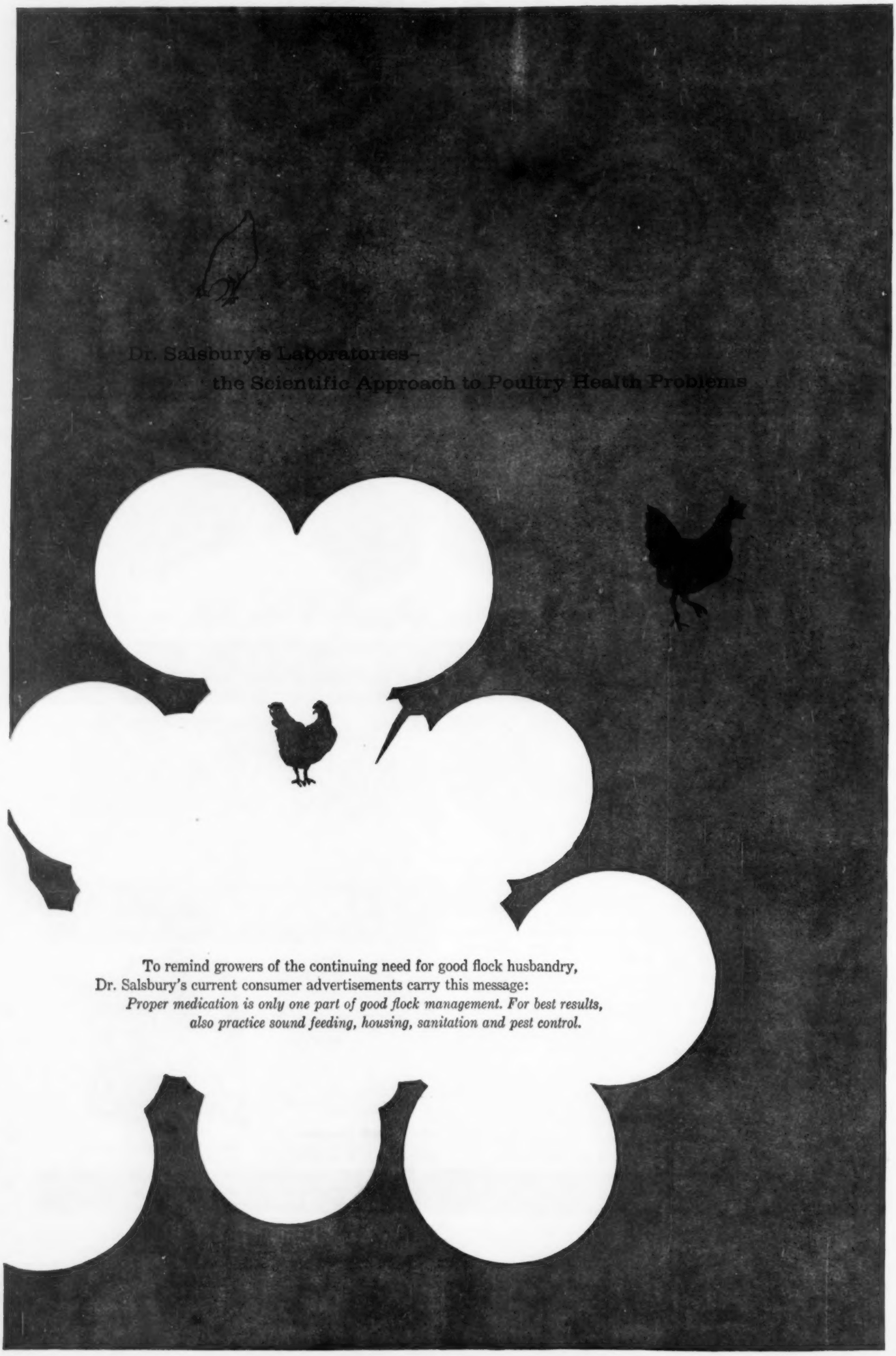
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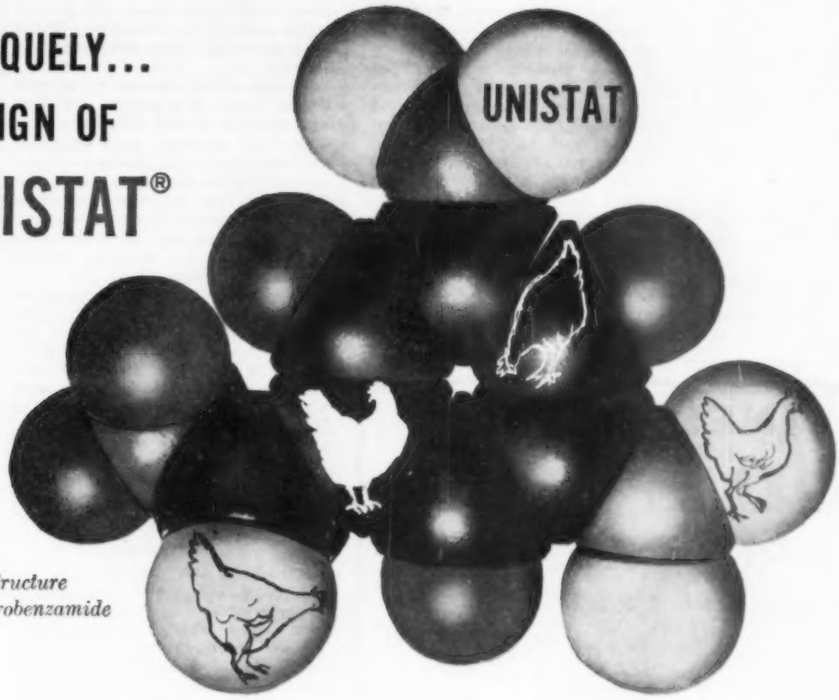

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NATIONWIDE SERVICE TO THE POULTRY INDUSTRY

tor's hens. The program operator also generally furnishes the feed. The producer generally furnishes the facilities and the labor. And, in the programs which I have visited, the producer generally furnishes litter, water, refrigeration and similar items.

Contract production programs pay producers a specific amount per dozen or per unit of time for labor and the use of facilities. The various contracts with which I am acquainted pay from about 5 to 9¢ doz. for eggs produced. Most of these programs include incentive payments based on level of production, number of pounds of feed per dozen eggs or level of mortality. In some programs, producers are given day-old chicks and must raise them to maturity. In others, the ages of pullets range from 10 to about 24 weeks.

Our estimate of returns among several programs studied in 1958 indicated that producers who received day-old chicks averaged about $1.50 to $1.80 per hen for providing labor, facilities, litter, fuel, electricity and similar items. Producers who were furnished ready-to-lay pullets received average payments of about $1 to $1.40 per hen. Average payments to producers have probably declined around 40% since the first contract production programs were started a few years ago.

The contract production operator needs more financial resources per case of eggs handled than is generally true for contract marketing and quality control operators. Ready-to-lay pullets cost about $1.40 to $2, and these costs plus current feed costs will usually not be covered until toward the end of the pullets' laying year. The operator also bears the risk of price changes during the year.

However, because the operator has more money tied up, he is likely to place more emphasis on good supervision and production efficiency.

OWNER-INTEGRATED OPERATIONS: Owner-integrated operations are those in which the producer owns the birds, manufactures or buys the feed, and hires labor to perform the operations.

Actually, nearly all egg production and marketing in the U.S. is integrated in some manner. There are many small operations which are nearly completely integrated. There are also several large integrated operations.

I know of nine operations of over 100,000 hens. The largest one I've seen contains around 250,000 hens.

In most instances, they manufacture their own feed, use one or two strains of birds, and have good quality-control. The egg plants of some of these owner-integrated operations are larger than the plants of other operators who are servicing several hundred egg producers.

Because of their size, there is no necessity for egg procurement. This also removes the cost of cases for this operation. Many of these organizations in deficit feed areas can manufacture their own feed at costs which are comparable to those of the Midwest producer who mixes his own grains with a concentrate. The fast movement of eggs into the retail channels is a definite advantage. In many instances, the eggs are in the retail stores the next day after being laid.

Coordination

Assuming no labor problems, operations can be well coordinated in owner-integrated operations. However, unless labor is given some incentive, there is likely to be more cracked eggs and lower production than operations in which an individual has his own money tied up.

Owner-integrated operations require more capital than contract marketing or contract production. The initial production investment will probably be at least double that of contract production.

Investment costs for both contract production and owner-integrated operations can be lowered through year-around pullet replacement—which is also part of a good marketing program. In programs which contract for pullet growing and therefore do not need pullet growing facilities, every other week replacements (26 broods per year) will require a maximum investment in growing pullets of two-thirds that of four broods per year. And four broods per year will require a maximum investment in growing pullets of only little more than half that of two broods per year.

APPRAISALS OF EGG PROGRAMS: The trend toward a greater degree of vertical integration in egg production and marketing has grown out of many conditions. Among these conditions are:

(1) Opportunities to lower costs through more efficient operations encompassing both production and marketing.

(2) An increasing awareness on the part of retailers of the need for uniformly high quality eggs.

(3) The increasing size of retail operations which gives retailers greater power in enforcing their demands.

(4) Inadequacies of candling as a standardization device.

(5) Inability of pricing methods to obtain uniformly high quality eggs and a uniform seasonal distribution of sizes of eggs.

These conditions provided the opportunity for developing new ways of producing and marketing eggs. Before new ways could be developed, however, it was necessary for individuals to visualize possible solutions to the problems. It was also necessary for them to have the courage and the financial backing to undertake new methods.

PROBABLE IMPACTS OF EGG PROGRAMS: Integration of production and marketing operations will affect all segments of the egg industry.

It is probable that egg production costs will be lowered by contract pro-

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BROKERS IN FEED INGREDIENTS

duction and large owner-integrated operations. This will mean increased production of eggs. Total egg production may increase faster than population increases.

Increased quantities of eggs per person are likely to result in relatively greater decreases in egg prices than the increases in egg production.

Egg consumption per person cannot be expected to increase as much as broiler consumption in recent years. Broilers substitute directly for other meats. Substitution between eggs and other foods is less direct.

Despite lower egg prices, many of those who are able to dovetail their production and marketing operations and take advantage of the cost lowering possibilities of an integrated operation may have fairly good net income. On the other hand, many producers and market operators may decide to go out of the egg business.

Producer Changes

The number of egg producers has been declining and the number of eggs produced per farm has been increasing for many years. New programs may accelerate this trend.

Producers on contract quality-control programs in the Northeast receive higher prices for their eggs than some contract production or owner-integrated operators in other areas and considerably higher prices than midwestern producers. These differentials are likely to decline as additional, well-coordinated production and marketing programs develop outside the Northeast. The southern region also likely will experience lower relative prices if it shifts from deficit to surplus production. Such a shift appeared probable in 1958.

The only major surplus egg producing area in the country is the Midwest. Individual producers in this area who use the best feeding alternatives have a feed cost advantage over producers of similar size in other areas. Costs of production in relatively small flocks (1,000 to 5,000 hens) in the Midwest will probably continue to be at least as low as in any section of the country. They will likely continue to be a sideline to over-all farming operations. If these producers use family labor and good quality-control practices and participate in a well-coordinated marketing program, they will be difficult to displace. The major disadvantage is their distance from eastern markets.

Low production costs and relatively good quality-control programs have enabled southern producers to replace much midwestern production in their own areas. They may soon become important competitors for major Northeast markets.

Breeding and Hatching

Quality-control programs demand greater emphasis on breeding for interior and shell quality. Larger operations also emphasize high-level, efficient egg production. Combining all the desirable attributes into one strain of chickens requires a professional staff, large numbers of breeding birds and detailed record keeping. A large operation is apparently necessary to lower breeding costs. This means a continued trend toward larger and fewer breeders. It probably also will mean lower costs in the long run for a given quality of chick.

It appears obvious that the wide seasonal swing in the proportion of replacement-chick hatchings results in higher cost operations than an even seasonal distribution of chick production. Hatchery operation costs are higher because much of the capacity is unused during more than half of each year in many hatcheries. Hatching egg costs are increased because only a relatively small proportion of the eggs from supply flocks are used for hatching purposes. As more programs develop and replacements are planned more systematically, hatching costs undoubtedly will be reduced. Because of excess hatching capacity, many hatcheries may go out of business.

It is also probable that hatching operations will become an integral part of larger production and marketing programs.

Country-point handlers who do not develop quality-control programs will likely need to sell most of their eggs to institutional users, the Armed Forces and egg breakers. Those who develop quality-control programs will need to build outlets as their programs grow.

Direct trading between country-point plants and large retailers is an integral part of many of the quality-control programs. Therefore, this method of selling can be expected to increase in importance. This probably means a further decline in the proportion of total eggs moving through city wholesalers. It also means a continued increase in the proportion of eggs graded and cartoned at country points.

There may be a tendency for egg-breaking plants to enter into programs so that they may operate their plants on a year around basis and obtain high quality eggs at cost of production. However, if per capita egg production increases and if it becomes more difficult to move non-program eggs through normal retail channels, egg breakers may have lower costs during the adjustment period by buying their eggs.

Finally, the better egg programs are those which take efficient production and marketing, good quality-control, even flow of production and adequate financing and combine them with demand.

Consumer demand will be determined by what consumers think is "right." What is "right" depends upon the consumer's own definition. But we can be sure that most retailers will cater to her demands.

New Elevator

WALLA WALLA, WASH.—Work on grading a 10-acre site at Wallula, near here, for another grain facility has been started. The area will house the new 1,900,000-bu. elevator to be constructed by Columbia Grain & Storage Co., a new firm composed of Walla Walla men. The site work is being carried out by the Port of Walla Walla.

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High Roughage Pellets Hike Calf Performance In Ohio Experiments

WOOSTER, OHIO — Findings of Ohio researchers in the feeding of high roughage pellets to calves were reported in a recent issue of Ohio Farm & Home Research, publication of the Ohio Agricultural Experiment Station.

The pellets (¼-in. diameter) were made from two parts coarsely-ground alfalfa hay (½-in. screen) and one part of a simple grain mixture. Whole milk was fed to seven weeks of age and the high roughage pellets were fed free choice from the third day to 16 weeks.

Reporting the Ohio findings were Dr. J. W. Hibbs and Dr. H. R. Conrad of the dairy science staff.

They said that calf performance was enhanced when chlortetracycline was mixed with the pellets. The addition of molasses, distillers solubles, calcium phosphate and brewers yeast to the basal pellets had no combined beneficial effect, they said.

Studies on protein level and source indicated that the high roughage pellets should contain 15% total protein or more and that growth was not retarded by substituting good timothy hay for half the alfalfa in the pellets. Cellulose digestibility would be greater if the hay were ground coarser than that obtained from a ½-in. hammer mill screen, digestion studies indicated.

No significant difference in calf performance resulted from rumen inoculations using fresh, warm cud material, the researchers said. However, rumen inoculations did result in the early establishment of several rumen microbes which were absent from the uninoculated calves and also increased cellulose digestion.

They listed five other advantages of high roughage pellets as follows: (1) prevention of selective eating; (2) simplification of feeding hay and grain in the desired proportion; (3) reduction in labor in feeding; (4) elimination of waste; (5) ease in adding microingredients.

Appointments Made By Feed, Hatchery Firms

FT. WORTH, TEXAS—Jack Henry has been appointed manager of Interstate Hatcheries, Inc., Dublin, Texas, a subsidiary of Chickasha Cotton Oil Co., Ft. Worth. His appointment was announced by Paul R. Ray, president of Interstate and vice president of Chickasha.

Also, Thomas L. Leahy has been appointed chief accountant of the Save Way Feed Mill division of Chickasha, according to Goodrich F. Cleaver, comptroller.

Before joining Interstate Hatcheries, Mr. Henry operated the Dublin Feed & Ranch Store. The hatchery he will manage has an egg setting capacity of 302,000. It is an authorized associate hatchery for Honegger layers, and also produces White Rock and Cornish Game Cross broiler chicks, as well as turkey poults.

Mr. Leahy has been with Save Way Feed Mills as an accountant since May, 1958.

LeLand S. Rolf Jack C. Ping

APPOINTMENTS—Hales & Hunter Co., Chicago, has announced the naming of LeLand S. Rolf as manager of the hog and cattle feeds department of Red Comb-Pioneer Mills and Jack C. Ping as regional sales manager of a new region covering Illinois, Wisconsin, southern Indiana and Iowa. Mr. Rolf had been vice president in charge of sales for Honeggers' & Co., Fairbury, Ill., and before that was divisional sales manager, Huron Milling Co. Mr. Ping was district salesman and supervisor for Archer-Daniels - Midland Co., Minneapolis, working in Iowa.

Paper Stock Burned

KANSAS CITY — Approximately two-thirds of $200,000 worth of multiwall bag paper stock stored on a lot adjacent to the Percy Kent Bag Co. here burned March 23 in a spectacular wind-whipped blaze that took firemen more than four hours to extinguish. The loss was covered by insurance.

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Taste Is Seminar Subject

ST. PAUL—Research on animal's sense of taste and on taste preferences was the subject of a recent Twin City Nutrition Seminar at the University of Minnesota.

Dr. Ralph Kitchell, head of the anatomy department, University of Minnesota, described some basic taste mechanism research with animals, and Dr. Frank Crane, research director, Land O'Lakes Creameries, Minneapolis, presented a review of research on taste preferences.

Dr. Kitchell discussed work under way on animal behavior in response to "tastes."

"Do animals taste?" and "Can we say sugar tastes 'sweet' to an animal?" were among the questions asked by Dr. Kitchell. He showed slides of charted responses to various tastes using tongues of anesthetized animals. The charts, produced through the use of electrodes attached to tongue nerves, were the result of experiments Dr. Kitchell had a part in conducting during recent studies in Stockholm, Sweden.

Dr. Kitchell noted that he plans to conduct similar experiments with pigs in University of Minnesota laboratories.

In another talk, Dr. Crane presented evidence to show that apparently animals can taste. He reviewed results of tests conducted on pigs, chickens and dairy calves in New York, Illinois, Iowa, Florida, Ohio, Minnesota, Kentucky, Georgia and elsewhere.

He commented that it was Dr. Morley R. Kare, associate professor of veterinary physiology, Cornell University, who "re-awakened this subject of taste in animals."

Dr. Kare discussed the sense of taste in the fowl in a recent issue of Poultry Science. He said in this article that a "description of taste easily lends itself to the bias of the investigators."

Taste, in the narrowest sense, refers to the sensation mediated through the taste buds. However, as Dr. Crane noted, general usage includes olfaction, gustation, the common chemical sense and the senses of touch and smell. Taste interpretation tests are also influenced by temperature, the shape and the color of the food and the animals' previous experience.

Poultry—Dr. Crane noted that in reviewing scientific studies concerning taste, he found that German experiments published as early as 1934, 1937 and 1940 concluded that the bird has more than a rudimentary sense of taste.

Dr. Kare showed in 1948 that it was almost impossible for a bird to be accidentally salt poisoned because even very young chicks show a definite resistance to a solution containing 1.8% salt, when there was an alternative provided. German investigators observed that the fowl would discriminate in choices between acids, salts, sweetness and bitter materials. They had a strong preference for sugar solutions. The opinion was expressed that the preference in grain for different fowl was based upon the shape and the color rather than the taste.

Thirty-two flavors were tested by Dr. Kare in his experiments with chickens. Among them were sucrose, butter, butterscotch, coconut, saccharine, strawberry, mincemeat, alfalfa, nutmeg, honey, sour dill, quinine, HCl and NaCl.

He felt, said Dr. Crane, that, on the basis of his experiments, the presence of a sense of taste had been emphatically established.

In other recent tests Dr. Kare has demonstrated the bird's ability to discriminate between carbohydrates. Throughout the trials there was no evidence that the fowl would prefer sugar solutions over pure water.

Dr. Kare concluded that chickens have taste buds, but of a smaller number than common mammals. According to his work, the greatest concentration of taste buds is at the floor of the pharynx behind the row of large papillae which crosses the base of the tongue.

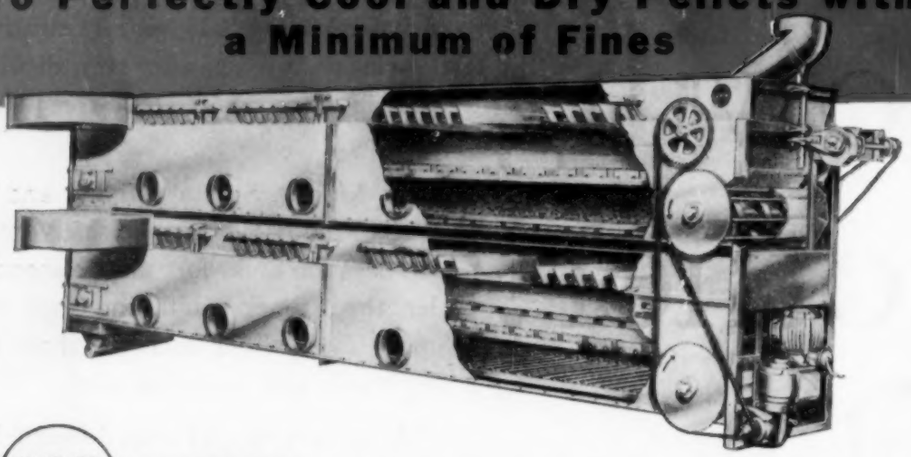
Swine—Dr. Crane said it was surprising to him that he was unable to find in journals he reviewed a direct reference to the pig having an ability to taste. However, he said, several preference tests were found. Dr. Crane commented that some confusion and conflict exist among findings involving taste preference experiments with pigs.

Sweetening agents, said Dr. Crane, seem to have achieved some practical importance, and under certain instances they increase feed consumption, therefore improving level of performance, particularly in the suckling pig. He reviewed several experiments on this subject.

Dr. Crane referred to Florida tests which he said had received a "tremendous amount of publicity." The tests were conducted to study effects of antibiotics on palatability of swine rations. Marked effects were reported with some antibiotics. Data indicated the order of preference was chlortetracycline, oxytetracycline, penicillin V and erythromycin.

"It is difficult to comprehend how minute quantities of these micro-ingredients could affect palatability to as large an extent as is shown here," Dr. Crane commented. "This is in no way questioning the integrity of the investigators, because we are all sure they have reported just exactly what they obtained. You sometimes wonder if maybe an experiment like this should have been rerun more

To Perfectly Cool and Dry Pellets with a Minimum of Fines



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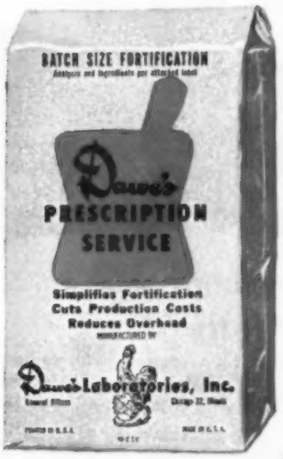

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ATTEND HUBBARD FEEDS SCHOOL—This group of Minnesota and Iowa feed men attended a training school for dealers and dealer employees recently at the research farm of Hubbard Milling Co., Mankato, Minn. Conducting the school were Quentin Marsh, assistant manager of the feed department; George Patrias, director of research and nutrition; Don Madden, Mankato division sales manager; Don Healy, manager of the Cedar Rapids (Iowa) division; Carl Todtleben, sales training assistant, and Vern Lundin, director of advertising and public relations. Dealers and employees attending were the following (towns Minnesota unless otherwise noted):

Front row (left to right)—John Schmid, Clements; Millard Haukoos, Walters; Arvid Olson, Lester Prairie; Lloyd Hoff, Cosmos; James Cramer, Mapleton; Jonard Fette, Owatonna; Clem Knieffel, Owatonna; Carlton Ellingson, Spring Grove; Stan Holty, Houston; Paul McMorris, Hazleton, Iowa; Dick Thelen, Albany; Ronald Miller, Wells.

Second row (left to right)—Duane Eastman, Alden; R. L. Schley, Browns Valley; Milton Kaufman, Browns Valley; Adolph Duellman, Lewiston; Clarence Olson, Kiester; Leon Scanlon, Lanesboro; Francis Pumper, Webster; Leo Hager, Lanesboro; George Jirik, Webster; Al Blom, Mankato; Leonard Witt, Dayton, Iowa; Daniel Hagland, Stratford, Iowa; Harold Sampson, Round Lake.

Third row (left to right)—Gene Houston, Mankato; Ronald Schreck, Appleton; Eugene Subin, Kiester; Rowland Millard, St. Charles; Fred Ritchie, Rushmore; Thomas Engelkes, Bigelow; Virgil Grunst, Nicollet; Bill Adolph, Kimball; G. E. Underleak, Chatfield; Richard Monson, Gowrie, Iowa; Walter Durst, Preston; David Thelen, Albany.

times before the results are published. This, of course, would definitely indicate that the pig has a very acute sense of taste."

Dr. Crane noted that Minnesota has published a report of the results of a series of tests on palatability in pigs.

Neither of two flavoring compounds, one having a pronounced fruit aroma and the other with a similar smell, had any effect on either rate of gain or feed efficiency under conditions of the experiment. Similar results were obtained with two other flavors.

In further tests conducted by Minnesota, comparisons were made between a control ration and rations containing 10% sugar and molasses. Dr. Crane reported that in some instances a slight improvement was noted with sugar additions, but there seemed to be an accompanying increase in the amount of feed needed to produce a pound of gain.

Dr. Crane said the Minnesota researchers concluded that addition of sugar or molasses to the formulas fed was not beneficial under conditions prevailing. Furthermore, they said, 10% sugar levels seemed to increase the fly nuisance during the fall months.

In other Minnesota trials it was reported that alfalfa meal depresses daily rate of gain. "This apparently is due to a dislike for alfalfa meal," Dr. Crane said. A summary of three trials showed that while the control group had an average daily gain of .73 lb., the lot fed 20% rolled oats gained .72 lb. and the group fed 3% alfalfa meal gained an average of .59 lb. daily. There was no significant difference in feed efficiency.

Dr. Crane also referred to tests conducted by Ohio State University which had results conflicting with Illinois and Minnesota tests. Feed intake was increased 2.21 lb. per pig in the Ohio experiments by incorporating 4% fish solubles. Ten per cent lard improved palatability considerably and a pound of saccharine also produced improvement.

Although test results gathered by Dr. Crane were said to be some-

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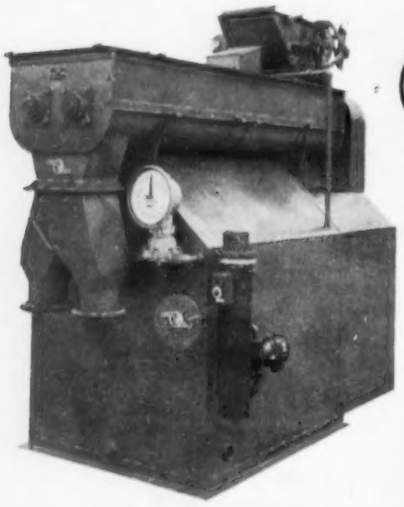

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Feed Energy Levels

was fed to groups of White Leghorn

"The differences between the re-

what confusing, he commented that he believed that there were some significant points that could be "tacked down." He listed the following tentative conclusions:

- "Apparently the pig can show a preference for certain ingredients.
- "In some tests there is no rhyme or reason to the preference; other tests are contradictory.
- "Ingredients such as dried skimmed milk, animal fat, sugar, rolled oats and molasses are, apparently, preferred by the pig.
- "Tests have also shown that pigs prefer pellets.
- "Palatable rations appear to fit into the picture, especially in just getting the pig started to eat dry feed. When competing with a good milking sow, these rations must be palatable. However, once they have started to eat feed, there is no need for incorporating highly palatable ingredients in a pig starter ration."

Dr. Crane said that tests conducted at the Land O'Lakes research farm show that "pigs gain just as fast and just as efficiently on rations not containing any sweetening agent as those that do contain a sweetening agent — and this is in agreement with the Minnesota tests."

Dairy Calves—Dr. Crane also discussed briefly taste preference experiments with dairy calves.

In tests at the University of Kentucky it was found that when calves were limited to one type of starter the physical texture of the starter had no significant effect on the average daily gain, skeletal growth, incidence of scours, consumption of hay or starter or the efficiency of feed utilization of the calves.

However, Dr. Crane pointed out, when calves had a choice, they picked the all-pelleted ration first, the ration of part meal and part pellets next and the all-meal ration last.

"Based on this experimental work," Dr. Crane noted, "many feed manufacturers today are featuring an all-pelleted ration or a meal-pellet combination." There appears to be an advantage for an all-pelleted starter due to the preference indicated by the tests and to less feed loss.

University of Minnesota tests have shown that calves fed a ration composed of 60% dehydrated alfalfa pellets and 40% pelleted grain consistently chose the dehydrated alfalfa pellets. This same test result was obtained when the ration was composed of 40% dehydrated alfalfa pellets and 60% pelleted grain. Dr. J. B. Williams, who has been conducting the tests at the university, believes this preference to be due to a difference in smell. The seminar speaker said Dr. Williams is contemplating a series of experiments evaluating some new flavoring compounds for calves.

Dr. Crane said the September issue of Dairy Science reported that in each of four Georgia experiments anise oil significantly depressed palatability. Two pounds per ton of anise oil depressed palatability more than one half pound per ton in the cafeteria experiment involving two imitation anise oils and a U.S.P. anise oil.

Summary

In summarizing his review of literature concerning taste preferences in animals, Dr. Crane said each of the tests "must be analyzed critically and we must remember that any additions to feed formulas must pay their own way."

Dr. Crane also expressed this personal opinion: "With the information that is available today it is very doubtful that the addition of flavors or flavoring compounds can pay their own way.

"Possibly in the future, when it becomes necessary for us to use very unpalatable ingredients, maybe some flavoring compounds can be proven to be of value. Today, however, with our excellent ingredients like soybean oil meal and corn there just does not seem to be a real problem of palatability in our pig, calf and poultry rations."

Dr. Crane said that palatable ingredients in pigs' pre-creep formula encourage early consumption — but, as soon as these pigs are started on feed, "there is no need for any additional palatable materials."

A similar opinion concerning calf starting was expressed by Dr. Crane. He said it has been shown that calves have a preference for pellets. "Again it seems important to get these calves started eating dry feed as early as possible," Dr. Crane commented.

Referring to experimental results, Dr. Crane said it is "apparent that the chicken does not care for flavors, even though it can differentiate between certain flavors."

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Feed Energy Levels Studied in Relation To Egg Production

RALEIGH, N.C.—The importance of energy levels of feed in relation to egg production has prompted studies at the Coastal Plains Experiment Station of North Carolina State College, Raleigh.

Dr. C. H. Hill, poultry nutrition specialist, reported that findings at North Carolina State and other agricultural experiment stations indicate there is no best level of energy for layers. "A balance between the protein content and the energy levels is the essential thing," Dr. Hill said in a recent issue of Research and Farming published by the North Carolina Agricultural Experiment Station.

He said that in studies over the past two years, 47-50 calories per pound for each 1% of protein in the feed appears to give the best results.

During the first year of the test period a 16% protein laying mash was fed to groups of White Leghorn and Rhode Island Red Hens, Dr. Hill reported. The basal diet was calculated to contain 700 calories per pound. Addition of vegetable fat at the expense of wheat bran increased the calorie content to 800 and 900 levels.

Dr. Hill said the North Carolina tests showed that the basal diet was obviously too low in energy. Production and feed efficiency figures revealed that feeds containing 800 and 900 calories were about equal.

White Leghorns only were used in a second study, which lasted nine months. The basal feed contained 19% protein and 800 calories per pound, and the caloric content was increased to 900 and 1,000 calories per pound as in the first study.

The results of this study, Dr. Hill said, indicated that, as far as production is concerned, any of the three levels of energy are equal. "As far as feed efficiency is concerned, however, the 900 and 1,000 caloric feeds are superior to the 800," the North Carolina researcher noted.

"The differences between the results of the two experiments are due, undoubtedly, to the increased protein content of the second year's feed," Dr. Hill said. The protein-calorie ratio for the best performance the first year (800 calories per pound) was 50. For the second year (900 calories per pound) the ratio was 47.

Bulk, All-Mash, Pellet Use Increase Noted

ITHACA, N.Y. — Feed industry trends which have seen the rapid growth in the movement of feed in bulk, in use of all-mash feeds for poultry and in acceptance of pellets and crumbles were noted in a recent issue of G.L.F. Week, a publication of the Cooperative G.L.F. Exchange, Inc., Ithaca.

Stan Smith of G.L.F. said more than three times as much G.L.F. feed moved in bulk in 1957-58 as in 1953-54.

Indicating another trend, Mr. Smith said, "In the year 1957-58 our poultrymen used 3½ times as much all-mash as they did six years ago, and it begins to look as though the use in 1958-59 would almost double that of last year." He said it is not hard to understand this trend because larger flocks handled with the same amount of labor have been made possible through the use of automatic feeders, "and it is this all-mash method that is best suited for automatic equipment."

Mr. Smith also pointed to increases in the feeding of pellets and crumbles.

AUTOMATIC HOG FEEDING— Looking over automatic hog feeding building and equipment at the University of Illinois swine farm are (from left): Prof. E. L. Hansen, agricultural engineer in charge of the research development work on this equipment; Howard Neurenberger, manager, agricultural section, sales development division, Aluminum Company of America, New Kensington, Pa., and Harold Beaty, extension agricultural engineer. The growing-finishing shed features a pressure water-flushing system that travels back and forth under the raised feed bunk to flush manure off the sloped feeding floor onto a collecting floor. The facilities were shown at the recent Illinois Swine Growers Day. (Feedstuffs, March 14.)

BUYS FEED MILL

BIRMINGHAM, ALA. — Earl G. Brewer, feed mill manager for the Lawrence County Exchange for 5½ years, has purchased the Wheeler Feed Mill in Decatur, Ala.

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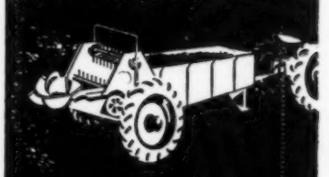

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Ohio Mill Will Have Capacity of 20 Tons an Hour

FOSTORIA, OHIO — Ninety per cent of all ingredients handled through a new feed mill being constructed here by the Ohio Farmers Grain & Supply Assn. will be in bulk form. The mill, under construction near the present feed plant, will have a feed-mixing capacity of 20 tons an hour and a pelleting capacity of 10 tons an hour, according to S. E. Salisbury, general manager, Ohio Farmers Grain & Supply.

It will be an all-steel structure rising to a height of approximately 70 ft. When completed, the structure will have three floors, a headhouse above the ground and a full basement. The plant will contain 10,000 sq. ft. floor area, plus 12 tanks for bulk storage of ingredients covering an additional area of about 40 by 40 ft., with the bulk ingredient tanks holding approximately 750 tons. There will be no windows. Instead, corrugated plastic panels will be used to permit light to enter.

Mr. Salisbury noted that all equipment such as a 100 hp. hammer mill, oats crimper, corn cracker, molasses blender and other machinery will be new.

Push buttons will control the semi-automatic mixing unit. One man in a control room will be able to operate the complete mixing operation of the plant.

Automatic Scales

Two automatic bagging scales are being installed, one for pellets and crumbles and the other for supplement mashes and molasses feeds. All bagged feeds manufactured in the new plant will be transported by belt conveyor to the present feed mill which will be used for warehousing after the present equipment is dismantled.

Bagged feeds, it was reported, will be stored on pallets and handled from the warehouse to the dock by fork lift trucks. The finished bulk feed is to be stored in bins over a driveway for rapid loading of feed into trucks. Automatic hopper scales under the bulk bins will be used to weigh and discharge the feed into trucks.

The bulk truck to be used in the new plant's operation is capable of handling 12 tons at a time. It has four compartments, each holding 3 tons, so that four different kinds of feed may be delivered on the same load. Another truck feature is a gasoline motor which blows the feed into the bins of an elevator at any location.

All future equipment purchased by Ohio Farmers Grain & Supply for use in transporting feeds will be painted white, red and yellow for easy identification.

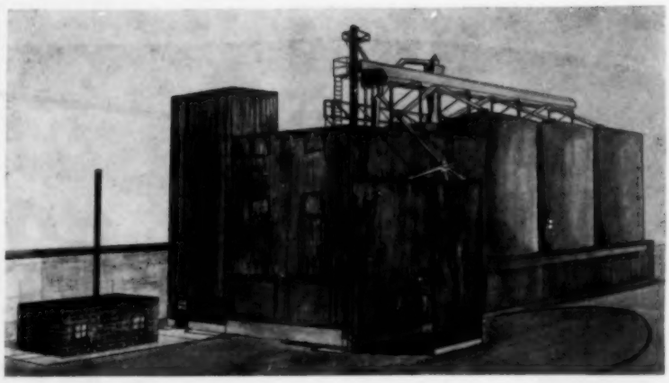
Grading, Stoning Planned

Grading and stoning of the area around both the old and new plants are planned to facilitate easier parking and movement of trucks.

Earl Neuman, plant superintendent for Ohio Farmers Grain & Supply, said it is hoped by the management that the same employees now working at the present plant will be able to handle the anticipated larger volume of feeds.

Three contractors are involved in the construction of the mill. Jennings & Churella, New London, Ohio, is the contractor for the sub-structure; Klein Steel, Bellevue, Ohio, is erecting the building, and Sprout, Waldron & Co., Inc., Muncy, Pa., is installing the machinery.

Management of the Ohio Farmers Grain & Supply Assn. expects to have the plant in operation sometime late this spring.



DRAWING OF NEW FEED MILL—This is an artist's conception of the new feed mill being constructed by the Ohio Farmers Grain & Supply Assn. at Fostoria, Ohio. At the left in the picture is the building that will house the boilers. At right is the driveway which will include all equipment necessary for loading bulk trucks. Total capacity of the raw material storage tanks at the rear will be approximately 750 tons. The old feed mill near the new plant site will be converted to warehouse space. This drawing was done by 15-year-old Dick Neuman, son of Earl Neuman, plant superintendent for Ohio Farmers Grain & Supply.

BULK TRUCK—Capable of handling 12 tons at one time, this bulk truck to be used by the new Ohio Farmers Grain & Supply Assn. feed mill at Fostoria, Ohio, has four compartments and is equipped with a gasoline motor for blowing feed into bins.

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Scrapie Ruling Made

SAN FRANCISCO — Because of scrapie disease in exposed sheep in Canada, Gov. Edmund Brown has approved an emergency regulation of the California Department of Agriculture prohibiting the entry of sheep into California from Canada.

The proclamation issued by the governor was accompanied by a statement of facts constituting the emergency. The statement was prepared by W. C. Jacobsen, director, California Department of Agriculture.

FIRM GROWS RAPIDLY

CAMILLA, GA.—Completion of a two-year expansion program at the Royal Poultry Processing Co. here this month may also be the start of further expansion. In a program of steady expansion since its start in 1957, the processing firm is studying tentative plans for future expansions, which may include a rendering plant to handle its waste products.

GPMMA Sets Annual Meeting in Chicago

NEW YORK—The Grain Processing Machinery Manufacturers Assn. will hold its annual meeting May 9 at the Sheraton-Blackstone Hotel in Chicago, R. J. Walter, executive secretary, has announced.

Scheduled for discussion, he said, are the national feed show, the national feed production school, association policy on exhibitions and related promotions, publicity and the association public relations program and technical activities.

Mr. Walter said the discussion will also cover the question of how the association is proving of practical value to the industry and how it can do a better job for the industry and individual members.

Guest speaker for the industry luncheon to be held in conjunction with the annual meeting will be George E. Hale, chief of the procurement and technical assistance division of the Small Business Administration.

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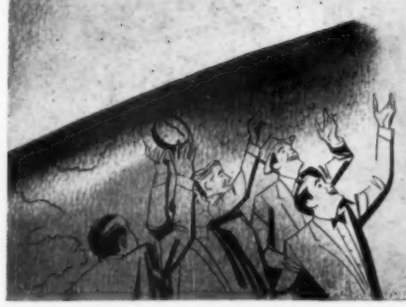

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Turkey Numbers Expected to Set Record in 1959

WASHINGTON — Turkey production is expected to set a record this year, exceeding both the 79 million head raised in 1958 and the 81 million in 1957, the U.S. Department of Agriculture said in its March poultry and egg situation report.

Hatchings so far have been in excess of farmers' January intentions to grow 5% more birds than in 1958 —15% more among Beltsville types and 18% more heavy whites, but 1% fewer other heavy (Bronze) turkeys. And hatchings in the next few months are likely to average above last year, but by a smaller percentage than in past months, USDA reported.

If the indicated increase tapers down sufficiently, the total supply of turkey to be available after mid-year may be no more than in 1958. Two factors, according to USDA, contribute to this possibility: (1) By mid-year the turkeys hatched before the end of February will mostly have been consumed and (2) storage holdings then are likely to be below the year before.

A larger supply of turkey breeder stock is available than last year, about in proportion with the generally increased intentions. USDA noted that hatchings in recent months have been at an even higher level than intentions indicate, but eggs in incubators March 1 were 3% fewer than a year earlier.

Even if March hatchings are down from 1958 in proportion to the decrease in eggs in incubators, the cumulative increase in poults hatched since Sept. 1 would be 3 million, according to USDA. A total increase of only 4 million poults hatched in September-August would be sufficient to fulfill producers' intentions.

Turkey prices have shown mixed trends in the last few months. Prices for frozen heavy toms have risen and were above those for hens in mid-March, while prices of hens and lightweight turkeys have weakened. Recent tom prices were about 2¢ above last year, but hens and Beltsvilles were 6@8¢ lower than for 1958.

USDA said these trends reflect both the unusually large proportion of hens in storage holdings, and the large number of turkeys now growing, most of which are of breeds customarily slaughtered at relatively light weights.

Frank Manchester Dies

OMAHA, NEB. — Frank P. Manchester, Sr., 79, a guiding hand in the Omaha Grain Exchange for nearly 46 years, died in a local hospital recently. He had been ill a short time.

Mr. Manchester had retired as executive secretary on his 75th birthday Feb. 13, 1955. He had been secretary of the exchange since 1909.

H. Earle Muzzy

Retires as Quaker Board Vice Chairman

CHICAGO—The retirement of H. Earle Muzzy as vice chairman of the Quaker Oats Co.'s board of directors has been announced. Mr. Muzzy joined the company 46 years ago. He will continue as a member of the board of directors and the company's executive committee.

Mr. Muzzy came to Quaker in 1913, a few months after his graduation from Princeton University. His first job was as a millwright helper at Akron, Ohio. Progressing through a series of production assignments, he became superintendent of a Quaker mill at Fort Dodge, Iowa, in 1919. From 1920 until 1936 he was stationed at the company's largest mill at Cedar Rapids, Iowa, first as assistant superintendent and later as superintendent.

For more than 20 years, Mr. Muzzy has been closely identified with the company's overseas operations. His connection with foreign business dates to 1936, when he left Cedar Rapids to take charge of Quaker plant construction at Southall, England. He returned to Cedar Rapids as superintendent in 1937, but was transferred to Chicago early in 1938 as vice president in charge of export operations.

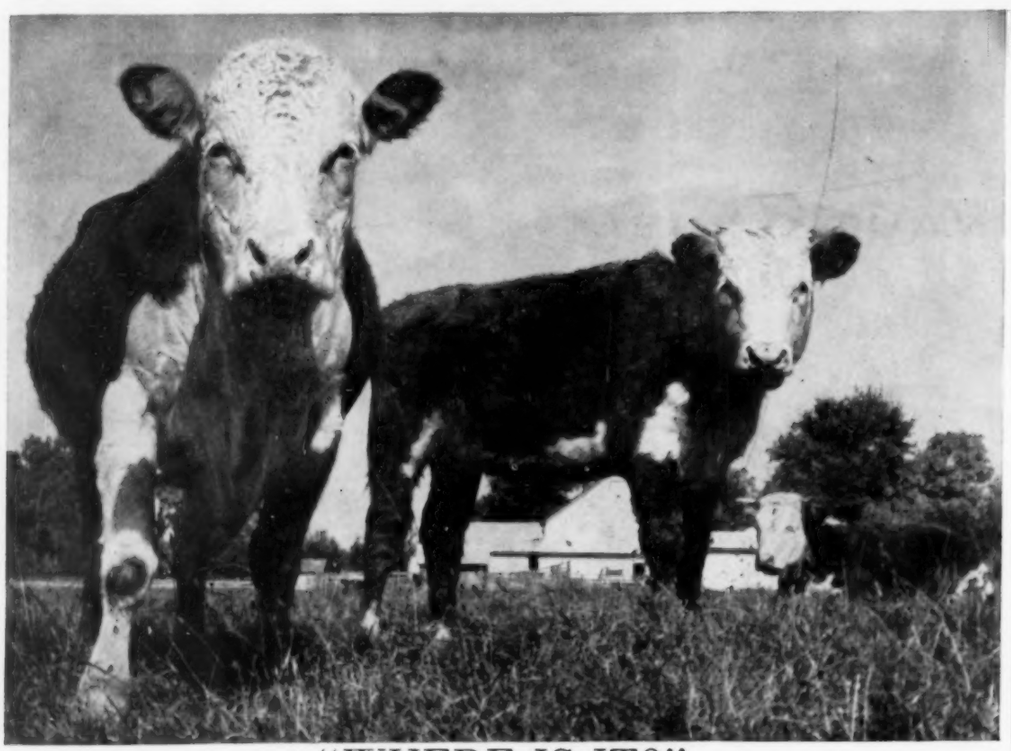
Mr. Muzzy was named a director in 1947, and became executive vice president later that year. He was elected president in 1953, and became vice chairman of the board the following year.

Region Sales Manager Named by Peet Firm

COUNCIL BLUFFS, IOWA—Ted R. Schreiner has been named regional sales manager for the E. M. Peet Manufacturing Co., Council Bluffs. He will direct six district supervisors and 60 sales representatives in Iowa, Missouri and Minnesota.

Formerly sales manager for the Seed Feed Supply Co., Chattanooga, Tenn., Mr. Schreiner has had 17 years of experience in the poultry, dairy, cattle and hog feeding business.

The E. M. Peet firm produces and distributes livestock and poultry feeds and minerals.



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Corn Distillers
Dried Grains

are a popular protein supplement for dairy cows and are a favorite ingredient in concentrate mixture for cattle. This includes GFF, the Grain Fermentation Factor and SCHENLEY CORN DISTILLERS DRIED GRAINS are especially valuable for milk production when other feeds in the ration are low in fat. They are always fairly and realistically priced. Write or wire to-day.

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Animal Health Institute Will Meet April 12-14; Award to Be Presented

DES MOINES, IOWA—The 19th annual meeting of the Animal Health Institute will be held April 12-14 in Washington, D.C., it was announced by True Davis, Jr., institute president.

Mr. Davis said the program will feature discussions by animal health authorities in government, industry and education, and will be highlighted by presentation of the institute's third Distinguished Service Research Award. The award is given to a scientist in the field of animal health and nutrition who has particularly distinguished himself in this area of service.

The Shoreham Hotel will be headquarters for the three-day meeting, which also will list a number of social events.

The Animal Health Institute, with headquarters in Des Moines, is a trade association of manufacturers and suppliers of antibiotics, feed additives, drugs, chemicals and other animal health products.

Alfalfa Appreciation

MINNEAPOLIS—National Alfalfa Dehydrating & Milling Co. and Blomfield-Swanson entertained 35 guests at the eighth annual alfalfa appreciation dinner at Charlie's Cafe March 18.

Assisting Don Swanson and Richard A. Blomfield, distributors for National, as hosts were A. R. McFadden, vice president, sales, and Lowell Price, divisional sales manager, of National's Kansas City office.

Clifford J. Olson, Glencoe (Minn.) Mills, won a blender for coming closest to guessing the number of alfalfa pellets it contained.

2 dozen eggs for ?

EGGSHELL BRAND Oyster Shell sells so well because poultrymen have learned that properly fed soft, reef shell can help their hens turn out up to 24 better-quality eggs a year.

It costs only a nickel per year per bird to feed EGGSHELL BRAND. These facts help make highly-digestible EGGSHELL BRAND the best-seller it is.

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PORTABLE SCREW ELEVATOR

Versatile, efficient, rugged...
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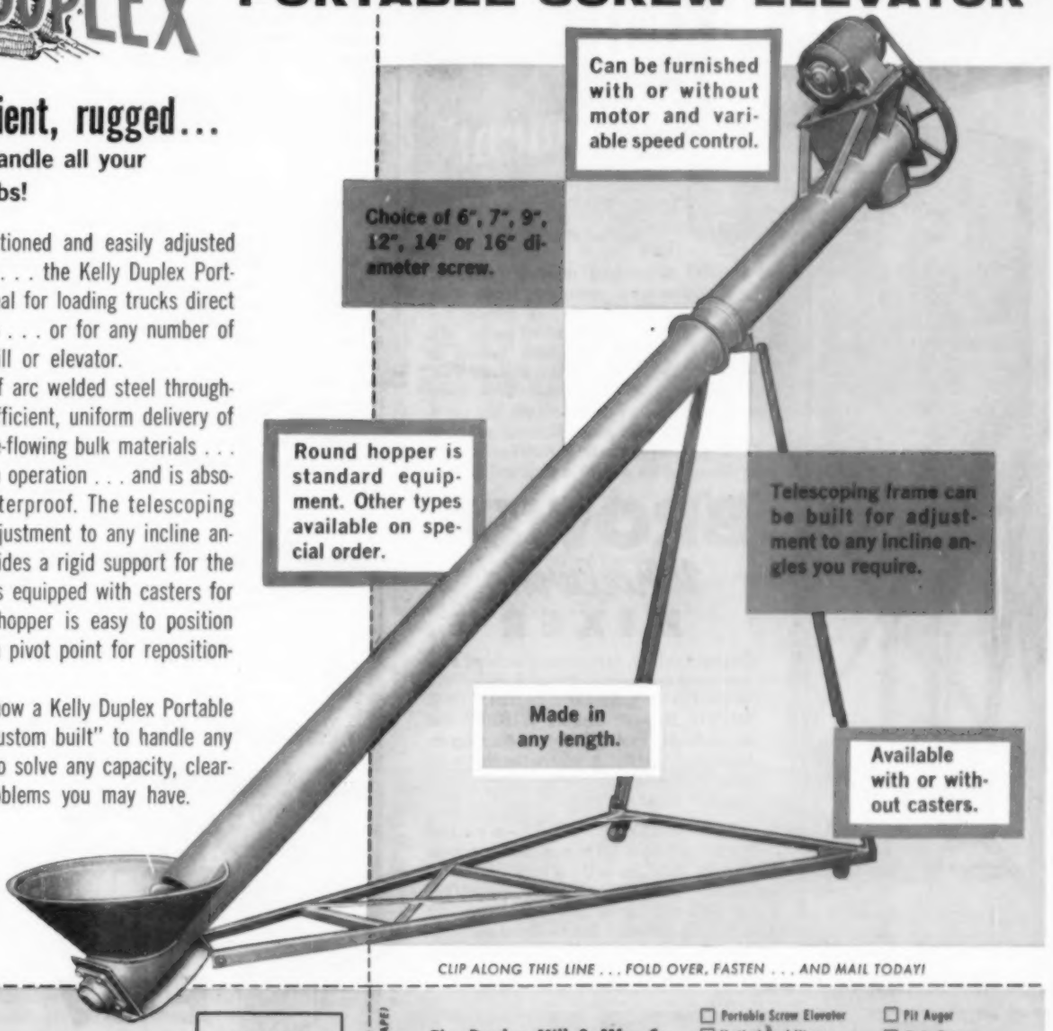
Easily moved, easily positioned and easily adjusted to any angle you require . . . the Kelly Duplex Portable Screw Elevator is ideal for loading trucks direct from a feed mixer or silo . . . or for any number of jobs around your feed mill or elevator.

Ruggedly constructed of arc welded steel throughout . . . it assures you efficient, uniform delivery of grain and all types of free-flowing bulk materials . . . is smooth and noiseless in operation . . . and is absolutely dustproof and waterproof. The telescoping frame can be built for adjustment to any incline angles you require . . . provides a rigid support for the conveying tube . . . and is equipped with casters for easy moving. The round hopper is easy to position . . . even when used as a pivot point for repositioning the discharge.

We'd like to show you how a Kelly Duplex Portable Screw Elevator can be "custom built" to handle any number of jobs . . . and to solve any capacity, clearance or incline angle problems you may have.

Check and mail card today for literature and full details.


Can be furnished with or without motor and variable speed control.
Choice of 6", 7", 9", 12", 14" or 16" diameter screw.
Round hopper is standard equipment. Other types available on special order.
Telescoping frame can be built for adjustment to any incline angles you require.
Made in any length.
Available with or without casters.

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The Duplex Mill & Mfg. Co.
Springfield, Ohio

Yes, I'm interested in the KELLY DUPLEX machinery checked at the right. Please send me full information on these machines without any obligation.

Layout service and planning details available without cost.

- ☐ Portable Screw Elevator
- ☐ Vertical Feed Mixer
- ☐ Vertical Screw Elevator
- ☐ Electric Truck Hoist
- ☐ Corn Cutter and Grader
- ☐ Corn Sheller with Blowers
- ☐ Pitless Corn Sheller
- ☐ Regular Corn Sheller
- ☐ Magnetic Separator
- ☐ Cob Crusher
- ☐ Bucket Elevator
- ☐ Pit Auger
- ☐ Chain Drag
- ☐ Twin Molasses Mixer
- ☐ Hammermill
- ☐ Corn Crusher-Regulator
- ☐ Grain Blower
- ☐ Corn Sculper
- ☐ Mill Blower
- ☐ Grain Feeder
- ☐ Electric Bag Cleaner
- ☐ Forced Air Carloader
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YEAST CULTURE

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Digestive enzymes - B Vitamins including B_{12} - Unidentified Health and Growth factors - Values not obtainable from any other source.

For All Cattle, Hogs, Sheep, Chickens, Turkeys

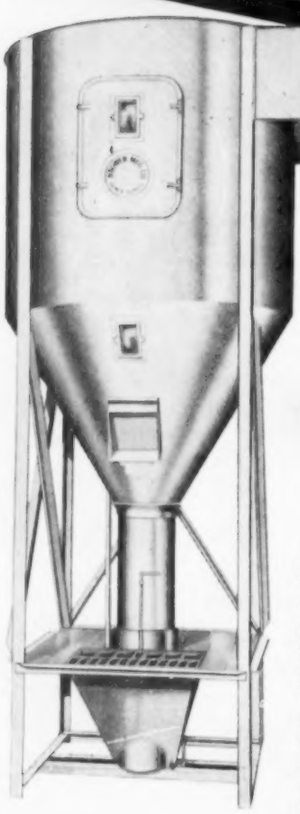
Better Health, Growth and Production - Greater feed efficiency - Lower Feed cost

Yeast Culture values proven by state college tests

write . . . DIAMOND V MILLS, INC. • CEDAR RAPIDS, IOWA

"BROWER MIXER is a profit-building investment"

. . . says Ben Parks
Ideal Elevator Co.,
Boulder, Colorado



"We have had over 3 years of trouble-free service from our Brower Mixer; it has never required any replacement parts. We not only mix our own brand of feeds, but we also do a good custom mixing business. We have found the Brower Mixer to be a profit-building investment; without it we surely could not handle all the mixing our business requires."

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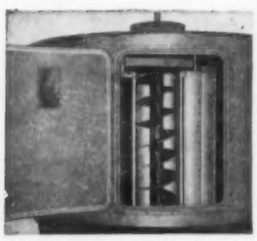
Whirlwind
MIXER

Dependability, fast mixing action, and low cost operation make Brower the WORLD'S LARGEST SELLING MIXER! Brower action WHIRLS the ingredients instead of just stirring or tumbling them . . . produces the most thorough mix you can get. Every sack has the same even mixture.

FAST and ECONOMICAL—a perfect blend in about 10 minutes at a power cost of only 3¢ to 5¢ a ton. Five sizes —700, 1200, 2000, 3000 and 4000 pounds-per-batch mixing capacities. Above-floor and below-floor models. Heavy welded steel construction—built for years of trouble-free service.



Interior readily accessible through large hinged service door and hinged conveyor sleeve.

Notice the mixing paddle at top which WHIRLS the ingredients for the most thorough mix.

Glass observation window at eye level provides easy inspection of mixed feed at any time.

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BROWER MFG. CO.
402 N. 3rd, Quincy, Ill.

World's Largest Selling Mixer

Convention Calendar

New Listings

For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the column in the current week appear ahead of the ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.

• • •

April 16—New England Dairy Feed Conference; Hotel Lenox, Boston; chm., Stanley N. Gaunt, University of Massachusetts, Amherst, Mass.

Aug. 23-25 — The National Hay Assn.; Sir Francis Drake Hotel, San Francisco; sec., Fred K. Sale, 600 Board of Trade Bldg., Indianapolis, Ind.

Sept. 9-10 — Pet Food Institute, Drake Hotel, Chicago; sec., Clyde Kassens, 3325 Michigan Ave., Chicago, Ill.

• • •

April 8—Commercial Egg Production Short Course, Georgia Center for Continuing Education, University of Georgia, Athens.

April 8—Purdue Egg Day; Purdue University, Lafayette, Ind.; sec., David D. Jackson, extension poultryman, Purdue University.

April 12-14—Animal Health Institute, Inc.; Shoreham Hotel, Washington, D.C.; sec., D. L. Bruner, 512 Shops Bldg., Des Moines, Iowa.

April 12-15—National Fisheries Institute; Hotel Commodore, New York City; asst. gen. mgr., Mal Xavier, 1614 20th St. N.W., Washington 9, D.C.

April 12-17—Grain Elevator & Processing Superintendents; Multnomah Hotel, Portland, Ore.; sec., Dean M. Clark, 1120 Board of Trade Bldg., Chicago 4, Ill.

April 13-14 — Nebraska Grain & Feed Dealers Assn.; Paxton Hotel, Omaha; sec., Howard W. Elm, Trust Building, Lincoln, Neb.

April 14-15—Poultry and Egg National Board meeting; Edgewater Beach Hotel, Chicago; gen. mgr., Lloyd H. Gell, 8 S. Michigan Ave., Chicago 3, Ill.

April 17—Nebraska Feeders Day, University of Nebraska, Lincoln, Neb.

April 17-18—Oklahoma Grain & Feed Dealers Assn., Youngblood Hotel, Enid; sec., E. R. Humphrey, 605 First National Bank Bldg., Enid, Okla.

April 23-25—California Hay, Grain & Feed Dealers Assn.; Fairmont Hotel, San Francisco; sec., John F. Gilmore, Blue Anchor Bldg., Sacramento, Cal.

April 24—Washington Beef Cattle Day; Washington State College, Pullman, Wash.

April 24-25—Joint Convention, Texas dealer and manufacturer groups; Hotel Texas, Ft. Worth—Texas Grain & Feed Dealers Assn.; sec., Ben M. Ferguson, 614 Meacham Bldg., Ft. Worth; Texas Feed Manufactur-

BINGMAN'S *Animal Health Products*

Less Mastitis—Higher Milk Production — More Profits

new approach to Herd Health

Results of tests using BINGMAN'S P-17

During this test period herds were fed BINGMAN'S P-17 at low level.*

	FIRST TEST			SECOND TEST (in 60 days*)			
Herds Tested	Quarters Tested	Clear	Infd.	Quarters Tested	Clear	Infd.	Percent Cleared
A.	32	21	11	28	28	0	100%
B.	95	76	19	112	108	4	79%
C.	80	34	46	68	55	13	72%
D.	68	52	16	68	64	4	78%
E.	74	38	36	79	72	7	81%
F.	83	69	14	78	76	2	85%
G.	60	34	26	44	39	5	81%
H.	36	27	9	28	26	2	77%
I.	16	11	5	16	15	1	80%
J.	32	16	16	28	25	3	81%
K.	48	41	7	60	59	1	86%
	624	419	205	609	567	42	79.5%

INDICATION OF SEVERITY OF INFECTION

Degree	1st Test	2nd Test
Slight	94	30
Infected (Mastitis)	66	9
Chronic (Mastitis)	45	3
Total	205	42

BINGMAN'S P-17

WHEN FED AS DIRECTED P-17

Aids in Control of MASTITIS

Aids in Reduction of SCOURS

Aids in Prevention or Treatment of FOOT ROT

Aids in Reduction of RESPIRATORY INFECTIONS

ASK ABOUT BINGMAN'S P-17 GUARANTEED FEEDING PROGRAM!

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A Subsidiary of S & H LABORATORIES, Inc., CALDWELL, OHIO

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DR. G. F. HEUSER
Director
Stonemo Poultry Research Farm

A career poultryman, college professor, author and editor, Dr. Heuser has been widely acclaimed for his work, his research, and contributions to advances in poultry science.

Dr. Heuser was the third person in the U.S. to receive a Ph.D. in Poultry Science (Cornell, 1918), and for 35 years was Professor of Poultry Husbandry at Cornell University. He is a former editor of both Poultry Science and World Poultry Science Journal.

FILM AVAILABLE AT NO COST

An educational 25 minute color 16 mm. film has been prepared by the Stone Mountain Grit Company. You will see how granite is mined, crushed, and distributed as granite grit. You will visit the Stonemo Poultry Research Farm, and see firsthand how granite grit helps increase egg and poultry meat production. This film will be lent at no cost to responsible groups. When writing, please use your letterhead and indicate a preference of several dates.

Sta-Kleen NESTING MATERIAL

Another fine product to increase poultry profits. Write for full data.

STONE MOUNTAIN GRIT COMPANY, INC.
Lithonia, Georgia

#2 IN THE SERIES OF

Questions and Answers About Granite Grit

Question: **What are the main benefits of grit feeding that can easily and accurately be measured?**

Dr. Heuser: The two main benefits are increased production (either weight or number of eggs) and feed efficiency. Increase in weight is especially important in broiler production.

Question: **Are there any other important values of feeding grit?**

Dr. Heuser: Yes, an insurance value. As already indicated, the gains usually are not large, but might be considerable under some situations or under stress. The feeding of grit might be of advantage to meet adverse conditions and act as insurance to counteract some of the factors which might be deficient and hence detrimental. The possible loss would be small (the cost of feeding the grit) but the gain might be considerable. In other words, there is little to lose, but there might be much to gain.

A leading poultry nutritionist has recently stated: "A couple of years ago we wondered about the need for grit in the case of broilers being fed all-mash or pelleted diets. However, we now believe that it is wise to feed grit to broilers and other classes of poultry even though they are on all-mash feeds. We have encountered several field cases where birds have become impacted with shavings and other litters, when no grit was fed. I believe that in some cases it might be possible to do a satisfactory job without grit in broilers and layers fed all-mash diets, but it seems to me since there is always a danger of the birds consuming litter, it is good insurance to have grit available."

Do you have a question regarding the feeding of granite grit? If you do, please address it to Dr. G. F. Heuser, c/o Stonemo Poultry Research Farm, Lithonia, Georgia.

Birdseye view of the Stone Mountain Grit Company's Poultry Research Farm, Lithonia, Georgia. Here constant feeding experiments are being made by Nutritionists and Research Workers to help you get Maximum Nutritional Values from every ton of poultry feed you buy.

STONEMO GRANITE GRIT—*The Grit with the* **"EXTRA GRINDING SURFACES"**

CALENDAR FOR 1959-60

APRIL

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ers Assn., sec., Ben. E. Schmitt, 3421 Park Ridge Blvd., Ft. Worth.

April 24—Indiana Cattle Feeders Day; Purdue University, Lafayette, Ind.; chm., Dr. W. M. Beeson, Department of Animal Science, Purdue University.

April 27-29—American Association of Feed Microscopists; Hotel Lincoln Douglas, Quincy, Ill.; sec., G. M. Barnhart, Missouri Dept. of Agriculture, Jefferson City, Mo.

April 30-May 2—Kansas Grain & Feed Dealers Assn.; Broadview Hotel, Wichita, Kansas; sec., O. E. Case, 609 Wiley Bldg., Hutchinson, Kansas.

May 8-10—Grain Processing Machinery Manufacturers Assn.; Chicago; sec., Raymond J. Walter, 511 Fifth Ave., New York 17, N.Y.

May 10-12 — National Cottonseed Products Assn.; Mark Hopkins and Fairmont Hotels, San Francisco; sec., John F. Moloney, 43 N. Cleveland St., Memphis, Tenn.

May 11-13—American Feed Manufacturers Assn. Convention and National Feed Industry Show; Conrad Hilton Hotel, Chicago; sec., W. T. Diamond, 53 W. Jackson Blvd., Chicago 4, Ill.

May 15-16—Missouri Grain, Feed & Seed Assn.; Hotel Governor, Jefferson City, Mo.; sec., D. A. Meinershagen, Higginsville, Mo.

June 1-2—Central Retail Feed Assn.; Hotel Schroeder, Milwaukee; sec., Eldon H. Roesler, 1712 W. St. Paul Ave., Milwaukee, Wis.

June 7-9—Indiana Grain & Feed Dealers Association; Sheraton Hotel, French Lick, Ind.; sec., Fred Sale, 600 Board of Trade Bldg., Indianapolis, Ind.

June 7-9 — Eastern Federation of Feed Merchants, Pocano Manor Inn, Pocano Manor, Pa.; sec., Austin W. Carpenter, Sherburne, N.Y.

June 8-10—Alabama Poultry Industry Assn.; Municipal Auditorium, Birmingham; exec. sec., W. L. Walsh, P.O. Box 567, Montgomery, Ala.

June 9—Northeastern Poultry Producers Council Egg Quality and Grading School; University of Massachusetts, Amherst; mgr., Dr. Alfred Van Wagenen, 10 Rutgers Place, Trenton 8, N.J.

June 9-10—Association of Southern Feed and Fertilizer Control Officials; Velda Rose Motel, Hot Springs, Ark.; sec., Maurice B. Rowe, Virginia Dept. of Agriculture, 1123 State Office Bldg., Richmond, Va.

June 25-27—Delmarva Chicken Festival, Dover, Del.; Dave Green, 1102 S. State St., Dover, Del.

June 25-27—Canadian Feed Manufacturers Assn.; Bigwin Inn, Lake of Bays, Ontario; N. D. Hogg, Box 66, Station Q, Toronto, Ont.

June 25-27 — Delmarva Chicken Festival; Dover, Delaware; sec., J. Frank Gordy, Delmarva Poultry Industry, Inc., R.F.D. No. 2, Box 47, Georgetown, Del.

July 10-14—Georgia Feed Assn.; General Oglethorpe Hotel, Savannah, Ga.; sec., Will L. Kinard, 3240 Peachtree Rd. Bldg., Atlanta 5, Ga.

July 21-23—American Poultry Congress and Exposition; Kiel Auditorium, St. Louis, Mo.; exec. sec., Don M. Turnbull, American Poultry and Hatchery Federation, 521 E. 63rd St., Kansas City 10, Mo.

Aug. 3-8—Feed Microscopy Short Course; Texas Agricultural Experiment Station, College Station; chm., E. E. Brown, Asst. State Chemist.

Aug. 4-7 — Poultry Science Assn. (meeting for members and executive committee invited guests only), Iowa State College, Ames; chm., Dr. Robert E. Phillips, poultry department, Iowa State College.

August 7-8—North Carolina Feed Manufacturers Assn.; Ocean Forest Hotel, Myrtle Beach, S.C.; sec.-treas., A. M. Upshaw, Jr., North Carolina Feed Manufacturers Assn., Box 44, Mocksville, N.C.

Sept. 13-14—Grain and Feed Dealers National Assn. (work meeting for directors, committees and members), Minneapolis; exec. vice pres., Alvin E. Oliver, 400 Folger Bldg., Washington 5, D.C.

Sept. 16-18—National Feed Ingredients Assn.; Pick-Congress Hotel, Chicago, Ill.; sec., Peter W. Janss, 212 Equitable Bldg., Des Moines, Iowa.

Sept. 17-18 — Arkansas Formula Feed Conference; University of Arkansas, Fayetteville; chm., Dr. E. L. Stephenson, Department of Animal Industry.

Sept. 18—College - Feed Industry Conference; Iowa State College, Ames; chm., Prof. Emmit Haynes, Animal Husbandry Dept.

Sept. 23-25 — Feed Production School; Continental Hotel, Kansas City; Lloyd Larson, 20 W. 9th St. Bldg., Kansas City, Mo.

Oct. 6-8 — Northeastern Poultry Producers Exposition; Farm Show Building, Harrisburg, Pa.; sec., Dr. Alfred Van Wagenen, 10 Rutgers Place, Trenton 8, N.J.

Oct. 7-9—Texas Nutrition Confer-

For more efficient and profitable operation of YOUR grain elevator check these essential SEEDBURO items!

Steinlite Model 500 RC Moisture Tester —the improved more accurate way to make your grain moisture tests.

Grain Probes— made to USDA specifications.

Filling Hopper & Stand No. 150 — for accurate filling of pint and quart buckets. Follow USDA Specifications.

Minneapolis Type Bag Trucks—extra long nose for handling large, bulky items. Roller bearings.

Tag-Heppenstall Moisture Meter — accurate, reliable and fast.

Grain Dockage Sieves — for all grains. Available in commercial and precision grades.

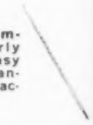
Sample Pans — Conform to Govt. specifications for convenient handling and filing of grain samples.

Tornado Portable Electric Blower — can be used as blower, or with attachments as vacuum cleaner.

Official Brown-Duvel Moisture Tester—all electric cut-off shuts off heat.

Improved Weight Per Bushel Tester — hand type, etched beam for clear readings. Dent-proof bucket.

Grain Thermometers — clearly etched for easy reading. Guaranteed absolutely accurate.



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ence; Texas A&M College, College Station; chm., Dr. J. R. Couch, Department of Poultry Science.

Oct. 14 — Animal Nutrition Research Council; Shoreham Hotel, Washington, D.C.; sec., Irwin Olcott, Dawe's Laboratories, Inc., 4800 S. Richmond St., Chicago 32, Ill.

Oct. 14-15—Association of American Feed Control Officials; Shoreham Hotel, Washington, D.C.; sec., Bruce Poundstone, Agricultural Experiment Station Bldg., University of Kentucky, Lexington, Ky.

Oct. 20-21—Virginia State Poultry Federation; Hotel John Marshall, Richmond, Va.; sec., J. Paul Williams, 615 E. Franklin St., Richmond 19, Va.

Oct. 22-23 — Annual Stockholders Meeting, Cooperative G.L.F. Exchange, Inc., Onondago County War Memorial Building, Syracuse, N.Y.

Oct. 30—Illinois Sheep Producers Day; University of Illinois, Urbana; chm., Dr. U. S. Garrigus, Department of Animal Science.

Nov. 4-7 — National Renderers Assn., Hollywood Beach Hotel, Hollywood Beach, Fla.; sec., Miss Jamie Fox, 30 N. La Salle St., Chicago 2, Illinois.

Nov. 12-13—Cornell Nutrition Conference; Hotel Statler, Buffalo, N.Y.; chm., Dr. F. W. Hill, Poultry Husbandry Dept., Cornell University, Ithaca, N.Y.

Hog Production Gain Expected in Mid-South

MEMPHIS—"Amazing growth" in broiler production in the Mid-South is expected to be followed by similar gains in swine production, the Memphis Board of Trade president said here recently.

Paul B. Mulroy, Quaker Oats Co., told oil mill managers from Mid-South states that such increases have in turn brought about phenomenal boosts in formula feed manufacturing business in the Southeast.

Mr. Mulroy was among the speakers for a meeting at the Hotel Peabody sponsored by the board of trade to acquaint oil mill managers with existing services and to consider possible changes.

He said that Mississippi typifies the broiler production expansion. From 1949, when the state's total amounted to about 10 million broilers, Mississippi in 1958 accounted for 84,424,000 broilers. These chickens, he said, consumed 64,000 tons of soybean oil meal.

Swine production, while on the way up in the Memphis area, has a long way to go, according to Mr. Mulroy. The Memphis hog market capacity is one million head a year, he said, but only 385,000 a year are slaughtered. The rest must be brought in from other cities. He told the oil mill managers that making up the 615,000 head deficit would bring consumption of 28,000 tons more of soybean oil meal.

Speakers also discussed hedging. W. G. Phillips, Jr., vice president, Union Planters National Bank, said that the bankers' viewpoint on hedging may be explained in three words: "We like it." He said that it would be difficult for banks to serve industry without the knowledge of price protection offered by futures exchanges such as the Memphis Board of Trade.

NEW ELEVATOR FIRM

CORCORAN, CAL.—An investment of $250,000 is to go into the development of Lake Shore Elevators, Inc., a new grain elevator and warehouse opening in Corcoran. Sam and Edward Crookshanks and Clyde Sittion are principal owners.

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Canadian Firm Plans New Plant in Ontario

PRESCOTT, ONT.—The start of construction of a new Master Feeds plant at Prescott has been announced by J. D. Leitch, president, Toronto (Ont.) Elevators, Ltd. Plans call for the new facility to be in operation in 1960.

"The increasing demand for Master Feeds has made it necessary for us to expand our manufacturing facilities," Mr. Leitch said.

He said the Prescott location is a logical one to fill a gap in Master Feeds Ontario manufacturing facilities. Western and central Ontario are served by plants located at Chatham, Baden, Owen Sound and Toronto.

"Our Master dealers will be able to procure bulk or bag feed quickly, which will keep our inventories down," he said. "Our customers will benefit by having fresh feeds readily available."

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SOYBEAN OIL MEAL
AND PEASIZE CAKE
43% PROTEIN — 4% FAT
The High - Fat, High - Protein, High - Energy
Basic Ingredient for All Feeds and
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This pen received Product A—one of the prominent commercial products available for preventing blackhead.
Results at the end of the test period
Mortality due to blackhead 40% % severe liver lesions 45%
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This pen received Product B—another of the prominent commercial products available for preventing blackhead.
Results at the end of the test period
Mortality due to blackhead 15% % severe liver lesions 15%
% severe cecal lesions 20% Feed conversion 2.88

This Control Pen received no blackhead preventive product
Results at the end of the test period
Mortality due to blackhead 60% % severe liver lesions 60%
% severe cecal lesions 60% Feed conversion 4.16

This pen received CARB-O-SEP.
Results at the end of the test period
Mortality due to blackhead 0 % severe liver lesions 0
% severe cecal lesions 0 Feed conversion 2.35

—Abstracted From Test C-158

CARB-O-SEP AGAIN PROVES ITS SUPERIOR BLACKHEAD PROTECTION

The birds in each of the above pens are the same age—15 weeks. The same number of birds were started in each pen. They were raised under exactly identical conditions—except for the blackhead preventive used. The pictures and the statistical results convincingly prove the superior efficacy of CARB-O-SEP.

And, in regular commercial use, too, during the tough blackhead season of 1958, CARB-O-SEP-protected birds came through in fine shape . . . without increasing the dosage level over the original recommendations. As one big Virginia grower put it, "We didn't know what blackhead was this year."

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Carefully Planned Open House Gives Remodeling More Value

Wisconsin firm gives customers breakdown on costs, equipment, new services and advantages as part of open house ceremonies.

By Al P. Nelson
Feedstuffs Special Writer

When the Kewaunee (Wis.) Cooperative Store remodeled its feed mill, its customers and potential customers were told about it.

The firm advertised its improvements in newspapers, and invited the community to a grand opening to look over the changes. In addition to these, however, the firm used a couple of ideas designed to give customers an even better idea of what had been accomplished.

To acquaint open house visitors with the store's new equipment, what the equipment would do and what expense the firm went to in attempting to improve facilities for customers, the firm placed well-lettered, easy-to-read signs on each machine in the plant, old and new equipment alike.

The equipment was identified and its capacities stated. Cost of the new equipment was also stated. In this way, open house visitors gained a great deal of information and drew conclusions on the basis of their information.

In addition to this, there was a saving in time. Cletus J. Maccoux, general manager, said that time that would have otherwise been spent talking about the equipment was spent talking about feed problems.

"I can recommend this way of handling a grand opening," Mr. Maccoux said. "By stating the price paid for the units, you can show the farmer that you have invested a lot of money just to provide him with better service."

In addition to the information on the cards, the firm also issued a special mimeographed sheet to 2,000 dairy, poultry and hog raisers in the area. It also had a stack of the sheets handy during the open house. The mimeographed sheet supplied additional information about the remodeled mill. Here is some of the copy:

"You are hereby invited to inspect and look over our new feed mill facilities which we have made available for the farmers of Kewaunee county and the surrounding area. Here's a list of improvements:

"1. Driveway with floor dump. This enables the farmer to dump his grain for grinding with real convenience and without bad weather interference.

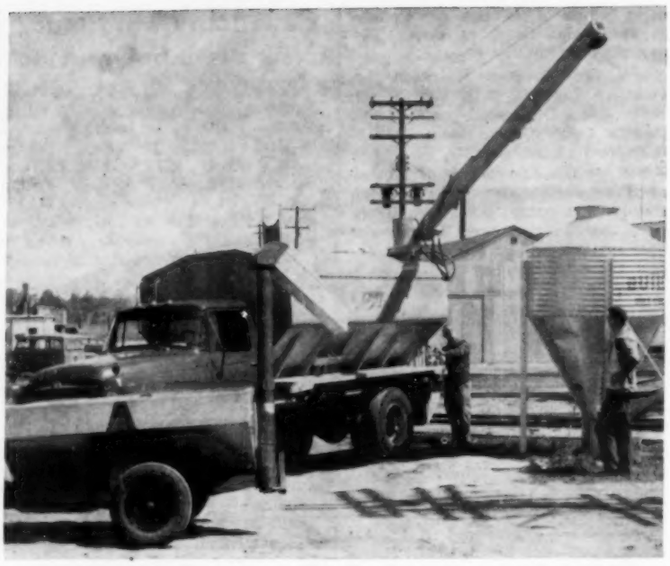
"2. Scale for weighing all grinding. Each farmer will be charged according to exact weight he brings in and buys. The scale also makes the exact computation of his ration according to the grain he brings in loose or in bulk.

"3. Giant Strong-Scott hammer mill with quick-change screens. Driven by a 140-h.p. electric motor, this mill will grind a ton of grain in four minutes. Screens can be changed by remote control in a few seconds.

"4. Five-ton horizontal Strong-Scott feed mixer with molasses manifold. This huge mixer enables us to handle the big truckloads of grain the larger farmers bring in and to also add molasses right in the mixing process without taking more time, if the customer desires. This, in addition to a two-ton (Prater) and a one-ton mixer we already had, enables us to have theoretically eight batches of feed in process at any given time . . . "

NEW EQUIPMENT — Cletus Maccoux, manager of the Kewaunee (Wis.) Cooperative Store, is shown looking over a new mixer installed by the firm during its remodeling last summer.

REMODELED FEED MILL—This is the exterior of the remodeled feed mill of the Kewaunee (Wis.) Cooperative Store. When its remodeling was completed last summer, customers and potential customers learned about it through advertising and a carefully planned open house.



BULK DELIVERY—Part of the remodeling completed at the feed mill of the Kewaunee (Wis.) Cooperative Store last summer was the installation of bulk delivery. Shown here is the bulk delivery truck used by the firm in serving its customers.

Information is presented in a similar way about an oat huller, oat crimper, nine new bulk feed bins, better loading docks, bulk feed loading from the mixers, and the firm's feed line.

In each case, the advantages to the customer are outlined. Farmers said they appreciated the outline, Mr. Maccoux said, and many of them remarked about it.

Despite the outline of how new facilities and equipment can serve the farmer better, dairy farmers in this important dairy region are rather slow to shift to bulk service, Mr. Maccoux said. This brought demonstrations at many farms by Mr. Maccoux and his staff during the summer and fall following the open house. This has been winning dairy farmers to the bulk list, he said.

Many farmers still get their bulk feed in their own trucks and then scoop it out when they get home, but Mr. Maccoux believes the firm will gradually win more customers to bulk service and storage.

The oat hulling and crimping equipment has been in constant use, he said, because of demand from several farmers in the area who raise feeder pigs.

Other Equipment

Included in its other equipment, the firm has an OK hay chopper, as many farmers use this type of hay. Charges for its use are 20¢ a bale. Some of this chopped hay is used in feeding sows.

Fairbanks-Morse Co. built a special scale for the firm. In this hopper scale, grist and corncobs can be weighed and charged by the cwt. The hopper scale works very well, reports the management.

Other equipment at the mill includes an Allied weigh buggy, Suttles weigh buggy and a Prater grinder for grinding oats hulls. The one-ton Strong-Scott mixer previously mentioned is used chiefly for scratch feeds, calf feed and pig starter.

A Mist-O-Matic grain treater and a Clipper cleaner round out the list of equipment.

The firm spent $67,000 in its remodeling program, as follows: Building, $34,000; mechanization, $29,000; store improvements, $4,000. The additional facilities have increased the firm's dollar volume 17% in six months and increased gross margins 4% through storage of feeds in bulk.

The firm issues a mimeographed sheet to customers and prospects listing service charges for its feed mill. There is a minimum pickup charge of $1 and a minimum delivery charge of $1. The copy also states that loading and delivery must be convenient, and that customers must help where possible.

Bulk pickup and delivery charges are listed as 5¢ cwt. for less than 10 miles one way, and 7¢ cwt. for more than 10 miles one way.

Alabama Egg Output Rises; Termed Likely Major Egg Producer

AUBURN, ALA.—Commercial egg production in Alabama is increasing so fast it is likely to become a major egg state, S. L. Davis, extension poultryman, declared in citing production figures for 1958.

Alabama egg production increased from 69 million to 75.6 million dozen last year—9.5%—and moved the state to fifth place among the egg producing south Atlantic and south central states. Only Florida exceeded Alabama's rate of expansion.

"Another significant factor in Alabama's egg business last year was the higher rate of lay," Mr. Davis said.

"The average production per hen increased from 181 eggs in 1957 to 186.3 last year, compared to the average of 185 eggs in the southern states, and 202 eggs nationally."

The number of layers on Alabama farms increased from 4,598,000 to 4,886,000, and Mr. Davis pointed out that if Alabama continues at the present rate of expansion in egg production, it should pass Kentucky, among the 16 south Atlantic and south central states.

Mr. Davis said reports from over the state indicate rapid growth of the egg industry in individual counties.

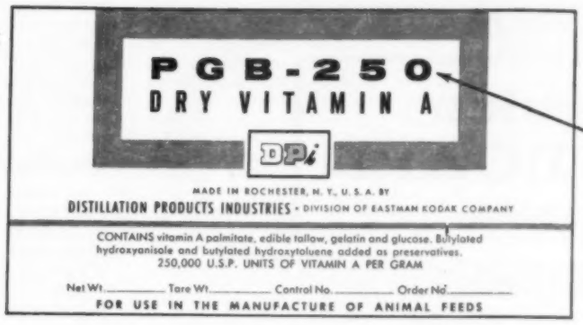
Egg production in Jefferson county —the Birmingham metropolitan area —has increased 304% in the past 10 years, according to Clint Johns, county agent.

"Consumption of eggs in homes, bakeries, restaurants and hotels totals almost 25 million a year," Mr. Johns explained, "with almost 60% of these eggs being shippped in from other states."

Mr. Davis predicted that by the end of 1960, Alabama will be producing more eggs than are consumed in the state—a situation that is becoming commonplace in the South, particularly in Georgia and North Carolina.

NEW MILL OPENS

OXFORD, KANSAS—A new, million-dollar, 750,000-bu. capacity elevator and a bulk feed mill of 35,000-bu. capacity were opened here this week by Parity Feed Mills. Charles Tallman, Mayfield, has been named manager.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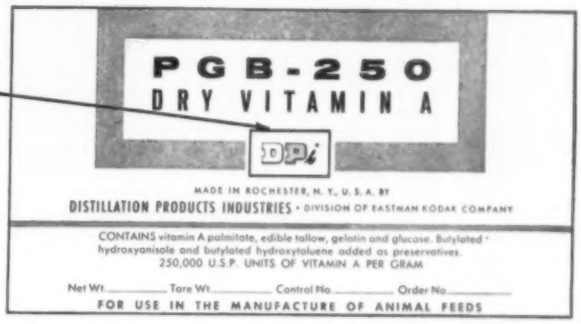
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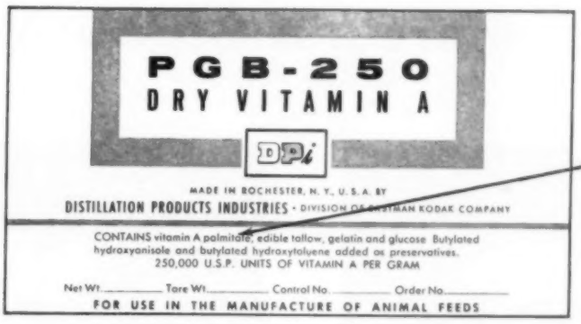
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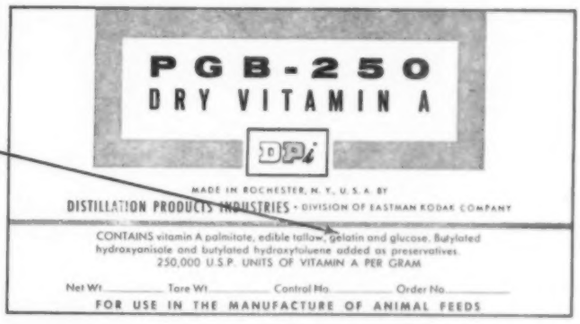
This is the inherently stable form of vitamin A. It resists the effects of heat, moisture, and long storage.

The vitamin A in PGB-250 is protected from air and the destructive action of minerals by the use of fat, gelatin, and edible food-grade antioxidants. Even at 100 F. and 58% relative humidity in mineral pre-mix, PGB-250 has shown a potency loss of only about 1¼% per week.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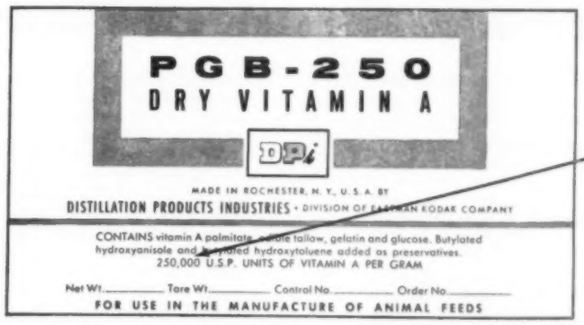
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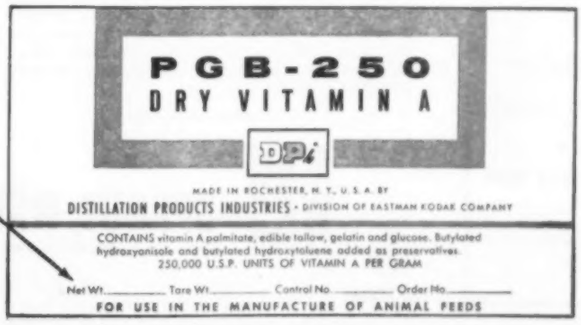
FOR USE IN THE MANUFACTURE OF ANIMAL FEEDS

The vitamin A potency of PGB-250 is 250,000 units per gram. You can also get potencies of 30,000, 20,000, or 10,000 units per gram. The diluent used in these dilutions is solvent-extracted soybean feed of particle size range especially chosen to blend with PGB-250.

PGB-250 Dry Vitamin A is packed in 25-pound and 100-pound polyethylene-lined fibre drums. For further information or a quotation, write ***Distillation Products Industries,*** Rochester 3, N. Y. Sales offices: New York and Chicago • Charles Albert Smith Limited, Montreal and Toronto. (Also available from distributors throughout the country.)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Feed Service BULLETIN BOARD

IDEAS TO HELP YOUR CUSTOMERS

Weaning at 5-6 Weeks

Weaning pigs at five to six weeks gives the producer most of the earlier weaning advantages and still makes economical use of the sow's milk, which is at heavy flow the first four or five weeks, according to Dr. W. E. Dinusson, animal nutritionist at North Dakota Agricultural College. He noted that five to six weeks is a practical weaning age for pigs in most of the hog setups in North Dakota.

Dr. Dinusson said weaning at 10 and even seven days looks promising on paper because the grower can get more litters per year and in many cases pigs have been heavier at eight weeks of age. However, he says, weaning that early adds to management problems and requires expensive pre-starters. Weaning at less than three weeks has not been too well adapted to North Dakota conditions.

The little pig is better equipped physically after three weeks or so to take on a creep ration than earlier when his system isn't as fully developed, Dr. Dinusson says. But the swine producer still needs a good, highly fortified creep feed that tastes good. The North Dakota nutritionist suggests that the creep feed be based around hulled oats.

It takes a tasty ration to coax a few-weeks-old pig away from his mother's milk, and that's why pigs from good milking sows are the slowest to try the creep feed. But Dr. Dinusson says the producer should not condemn the creep ration on that account because from poorer milking sows there are likely to be fewer pigs which can make prompt and excellent use of the creep feed.

◆

Turkeys Need Room

It's important for the turkey grower to strike a happy medium in floor space. Turkeys should have enough room to grow, but not so much that the producer loses money.

Here are some tips on this subject from Colorado State University scientists:

1. Hens should be allowed 3 sq. ft. per bird, while toms need 4-5 sq. ft.

2. Turkeys given more space put on slightly more weight, but it is questionable whether the differences are worth the extra floor space.

3. Crowded conditions depress weight gains.

4. The critical period for allowing sufficient floor space is between 20 weeks of age and marketing.

It was reported that hens gained an average of 5.4 lb. when allowed 2 sq. ft. floor space in Colorado tests. Other gains were 6.3 lb. with 3 sq. ft. and 6.5 lb. with 4 sq. ft. For toms, the average weight gains were 10.7 lb. at 3 sq. ft., 12 lb. at 4 sq. ft. and 12.5 lb. at 5 sq. ft.

Since toms need more space to grow, the Colorado researchers figured that a producer with 750 toms would make $168.65 more profit than the producer with 1,000 toms, assuming their sheds are the same size. The reverse would be true for hens. The producer with 1,000 hens would come out on top, realizing $177.70 more than the producer with 750 hens in the same size pole house.

Profit per bird increased as more space was allowed, regardless of sex, but for hens gross income was benefited by less space.

◆

Roughage for Heifers

An extra 100 lb. growth on a heifer may mean 400-900 more pounds of milk every year of her life. This means that proper feeding of dairy heifers for herd replacement will go a long way toward insuring the future producing ability of a dairy herd.

Good feeding and management of heifers 6-24 months old help to realize these gains, says Prof. L. R. Fryman, University of Illinois dairy extension specialist. Dairymen can also breed the heavier animals sooner for earlier production.

Dairymen should feed heifers all the roughage they will eat without waste. Heifers can also make good use of silage when it is available.

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The Sprout-Waldron "CG" series of custom grind hammer mills set the pace for efficient feed grinding. They are the perfect answer for millers who want flexibility, high capacity, low power consumption, and trouble-free grinding day after day.

These economical hammer mills are available in 14", 18", and 24" rotor widths and in eight different horsepower ratings.

Materials are ground by the action of carefully balanced alloy steel four point reversible hammers and by impact against the pocketed Ni-hard blasting plate. Construction is rugged throughout. Alnico permanent magnets protect against tramp metal. Convenient access and screen change doors speed production. Crusher-feeder and products collect-systems are available to further increase grinding efficiency.

Write for Bulletin 122

It takes only a few seconds to switch screens while the machine is running with this compact Sprout-Waldron Hammer Mill. Capacity is not sacrificed to accomodate the unique side screen change arrangement.

Available in 18" and 24" rotor widths and three different horsepower ratings, this mill is flexible in operation, has high capacity, low power consumption. Delays between grinds are shortened and high power cost of stopping and starting mill is eliminated. Grinding volume and profits are increased.

Side screen change hammer mills are fabricated from heavy safety welded boiler plate. Full size screens, held in sturdy vibration-free cradles, are manually inserted from side of mill. Four point reversible hardened alloy steel hammers are used, as are corrugated breaker plates, life-time Alnico magnets, and many other quality design features.

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JS/102M

Three pounds of silage is about equal to a pound of good hay.

If heifers are getting the same roughage as the milking herd, the same grain mixture is adequate. However, too much grain should not be fed because overly fat heifers are sometimes harder to breed and may be lower producers than their properly fed sisters.

◆

Antibiotics for Pullets

A flock owner may find it desirable to feed antibiotics to laying pullets during stress periods.

Prof. Denver D. Bragg, poultry specialist at the Virginia Polytechnic Institute, says the advantages of high level feeding of antibiotics (100-200 gm. per ton) have been indicated in research, as well as through observation, and points out that antibiotics are beneficial to laying pullets during periods of extreme temperatures, after vaccination, or at the time of certain disease outbreaks.

Prof. Bragg cites tests in which Aureomycin and Terramycin fed at 100 gm. per ton in an all-mash ration to laying pullets suffering from a natural infection of chronic respiratory disease gave significant increases in egg production. Layers receiving the antibiotics needed less feed to produce a dozen eggs. In addition, the antibiotics helped to reduce mortality rate and increase body weight.

Georgia Broiler Operations Discussed

ATHENS, GA. — Figures on the broiler business last year in Georgia "demonstrate vividly" how the profit margins in broiler production are shrinking, and why so many dealers had to reduce the base price of their contracts, it was noted in a report from Milton Y. Dendy, extension poultryman with the University of Georgia.

"Other states are expanding their broiler production and, if we want to keep our place at the head of the group, we must do some further expanding," Mr. Dendy noted.

He pointed out that Georgia's broiler output in 1958 was 292,119,000, an increase of 31,119,000 over the 261 million produced in 1957, and that the 1958 crop grossed $164 million.

"If we do a little calculating, based on the above figures, we find the average gross return per broiler in 1958 was 56.6¢. Data from the same source for 1957 showed an average of 57.6¢ a head. Average weights were the same both years—3.2 lb. per bird. Georgia's 1958 crop thus brought 1.0¢ gross return per bird less money, on an average, than the 1957 crop," the poultry specialist explained.

Mr. Dendy said shrinking margins can be somewhat offset by paying strict attention to a number of little ways to reduce production costs, especially in determining the type of housing and equipment that will give the greatest returns at lowest costs for the longest period of time.

Package Unit Leasing Plan for Milling Industry Announced

CHICAGO — A special package lease plan for the milling industry has been announced by Nationwide Leasing Co., Chicago, under which any combination of equipment may be considered one package and leased as a unit for three to five years.

According to Robert Sheridan, Nationwide president, the package lease permits large and small firms to acquire $10,000, $25,000, $50,000 or more in equipment without capital investment.

"This Nationwide package lease was developed to meet the need of milling firms to expand and modernize production facilities without depleting their liquid working capital," Mr. Sheridan pointed out. "Any combination of equipment may be lumped together in one package, under one lease, with one monthly lease payment."

Amburgo Introduces New Feed Service

HOPE, IND.—Amburgo Manufacturing Co., Inc., Hope, recently formed subsidiary of the Amburgo Co., Inc., Philadelphia, has introduced a new feed service to feed manufacturers, the parent firm has announced.

The subsidiary, which was formed for the manufacture of condensed fish solubles and fermentation solubles products, is building custom-designed condensed fish solubles for feed manufacturing firms. The research division of the firm will assist the manufacturer in designing new and improved products for his custom feed needs, the announcement said.

Addition of this service, officials indicated, enables the firm to present a complete service to the feed manufacturer. In addition to its manufactured condensed fish solubles products such as Sard-X and Amburgo New Supertrate, the company is a distributor of vitamins, antibiotics and other animal feed additives.

The Amburgo services will be offered to the western market by "Amburgo West," under the direction of J. Louis Golden in Fresno, Cal.

MOVES TO NEW QUARTERS

SAN FRANCISCO—Ray Brady of the Commercial Machinery Co., San Francisco, has moved to larger quarters at 235 Main St. The company, acting both as manufacturer and manufacturer's representative, is intensifying its activities and services in the feed industry, Mr. Brady said.

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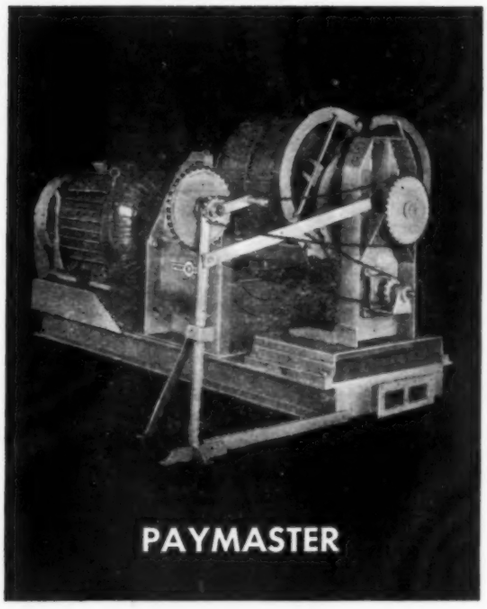

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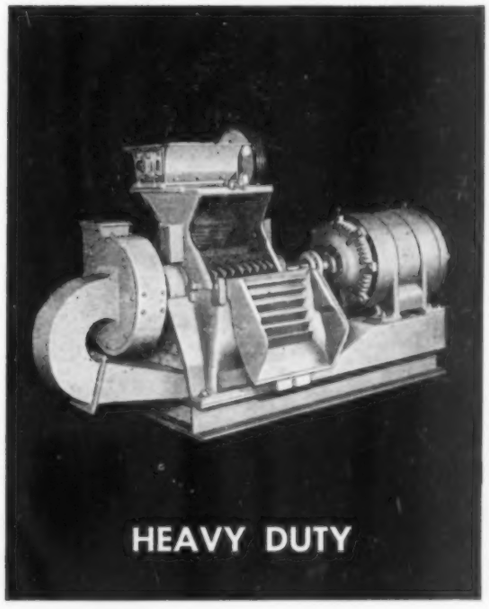
Write for Bulletin 110-A



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Ohio Program Emphasizes Pig Stock Selection

COLUMBUS, OHIO—Performance records indicate that the Ohio swine improvement program is making progress toward developing market hogs which mature sooner and produce more lean meat on less feed than ordinary swine.

Over a seven-season period (fall, 1954, through fall, 1957) records kept on 1,423 hogs showed an average daily gain of 1.69 lb. These pigs reached the slaughter weight of 210 lb. in an average of 163.1 days.

Pigs certified as "superior" ate an average 337.1 lb. feed for each 100 lb. gain, according to test results covering five seasons (fall, 1954, through fall, 1956). The average requirement of feed per 100 lb. gain over a three-season period (spring, 1957, through spring, 1958) was 324.1 lb.

Other data obtained on the "certified superiors" includes (five-season average listed first, followed by three-season average): Backfat thickness, 1.55 in. and 1.48 in.; loin eye measurement at 10th rib, 4.05 sq. in. and 3.95 sq. in.; per cent ham, loin and shoulder of chilled carcass weight, 52.12 and 52.64; per cent fat trim of adjusted live weight, 15.18 and 15.20, and per cent primal cuts of adjusted live weight, 49.96 and 49.59.

Purpose of the swine improvement program, under the direction of Prof. W. H. Bruner, extension specialist in animal science and marketing, Ohio State University, is "to select and recognize breeding stock from Ohio herds that will improve the efficiency of production and the market value" of the Ohio commercial hog crop.

Selection of breeding stock is made on the basis of records that indicate (1) Absence of inherited defects, (2) prolificacy, (3) nursing ability, (4) rapid growing and gaining ability, (5) efficiency of feed utilization, (6) superior meat-type carcass value and (7) soundness, style and balance of conformation.

The program is guided by the Swine Improvement Assn. of Ohio, assisted by the facilities of Ohio State University, Agricultural Extension Service and the Ohio Agricultural Experiment Station.

As its part in the program the swine evaluation station provides a 108-pen unit where breeders may have two pigs per litter fed under uniform conditions of feeding and management.

Prof. Bruner's report showed that swine of 11 breeds have been tested to date in the program, but he noted that the testing station has no purpose for making comparisons between herds and breeds. The station's intention is to secure accurate performance records through which superior strains may be identified and through which the individual breeder may evaluate the performance of his stock, Prof. Bruner said. No attempt is being made to develop a new breed.

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Egg Promotion Tax Adopted in Georgia

ATLANTA, GA.—Georgia's agricultural commodities authority act of 1951 has been amended by the 1959 state legislature to include eggs within its provisions and to provide for an assessment charge of 2¢ for each case of eggs produced in the state to raise funds to finance a promotional program.

The original act included peanuts, cotton and tobacco, with the assessment charged each of these enterprises to be used in the promotion of its respective product. The new amendment applies the provisions affecting these commodities to eggs.

Road Restrictions Bring Feed Delivery Problem

ROCKLAND, MAINE—Declaring there apparently is no solution to their feed delivery problem, representatives of the Waldoboro Feed Service pleaded guilty in Rockland Municipal Court March 18 to a charge of operating a truck weighing more than 12 tons over a road posted for an 8-ton limit. The poultry feed concern was fined $10.

This court case followed closely a recent protest by Wilmot S. Dow, senator from Waldoboro, against the posting of Maine roads. He said the limits threaten the existence of numerous poultry establishments in Lincoln and Knox counties.

The Maine Highway Commission claims such posting is a necessity during the spring season to prevent excessive thawing damage to certain thoroughfares.

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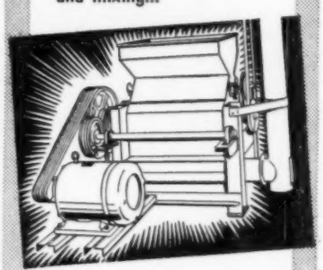

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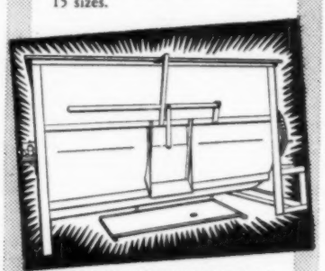

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N. M. Reports Cover Tests with Cattle and Lambs

STATE COLLEGE, N. M.—Results of experiments involving an antibiotic for fattening calves, varying amounts of grain and molasses in pellets for lambs and self-fed pelleted rations for yearling steers were explained here recently to 200 stockmen at the annual New Mexico State University Feeders Day.

Prof. J. H. Knox, who heads the university's animal hubandry department, reported that cattle feeding tests at the New Mexico Experiment Station show that calves fed Aureomycin at the rate of 100 mg. daily in the preliminary period and 50 mg. in the fattening period made greater and more economical daily gains than those which didn't get any of the antibiotic.

Calves fed a light grain ration and the Aureomycin made greater daily gains than the calves fed a heavy grain ration and Aureomycin. Prof. Knox said these results indicate that the antibiotic has more effect with a high roughage ration than with a high concentrate ration. He also noted that Aureomycin improved the carcass grade and quality.

"Beneficial effects of the Aureomycin cease shortly after feeding, and it does not carry on as we suspected it would," the animal husbandman stated. The antibiotic does not appear to reduce occurrence of scouring and bloating or other digestive trouble, according to test results.

Prof. Knox said that in another experiment in which yearling steers were self fed pelleted rations, animals fed cubes of 70% alfalfa, 25% ground maize and 5% molasses made the cheapest gain in relation to the cost of feed. For this ration the cost of feed for 100 lb. of gain was $9.27 and the average daily gain was 2.75 lb. In comparison, average daily gain was 2.96 lb. and cost of feed for 100 lb. gain was $10.16 for steers fed cubes of 35% alfalfa hay, 35% cottonseed hulls, 15% ground maize, 10% cottonseed meal and 5% molasses.

Prof. P. E. Neale, New Mexico State University animal husbandman, explained an experiment with lambs which was designed (1) to test the use of less than 10% molasses in pellets made of 80% and 70% coarse alfalfa hay and (2) to compare size of pellets.

He said there was a significant difference in rate of gain, feed efficiency and profits in favor of the 10% molasses compared to the 70% alfalfa pellets with 5% molasses and with no molasses. Prof. Neale also noted that the lot fed the 70% alfalfa pellets showed significantly higher rates of gain than any of the lots fed 80% alfalfa pellets.

There was no significant difference, he said, in rate of gain, feed efficiency or profit between 10% and 5% amounts of molasses and no molasses in the 80% alfalfa lots.

The larger cubes (¾ in.) fed in the lamb tests had a lower consumption rate than the quarter-inch cube, but had about the same efficiency in gain.

Prof. Neale said the lamb feeding experiments will be conducted for two more years and an average of the three years' work will be published.

It was explained by Prof. Neale that in a test comparing results of cube feeding vs. hand feeding of alfalfa hay and grain sorghum, the cubes of 70% alfalfa, 20% sorghum grain and 10% molasses gave the highest gain and feed efficiency, while hand feeding of loose alfalfa and grain gave the poorest.

Price Prediction

Even though lower prices for livestock are expected, two livestockmen with an aggregate of more than 85 years of experience in cattle feeding agreed at the event that livestock feeding in the Southwest has "a bright future."

Ben Davidson, Clovis, commented, "You can't make any money by feeding one bunch of livestock now and then. You've got to keep at it." He said he has cattle moving five or six days a week, either to the market or to the feed yards.

E. O. Moore, Sr., Dexter, said he sees a considerable demand for crossbred cattle in the future, and that he believes such cattle hold more promise than some of the purebreds.

He cited the growth of the sales ring as a factor which aids the farmer with less than a carload of cattle. He also spoke of the growth of the local packer who provides livestockmen with the opportunity of feeding on a guaranteed basis.

Fred Heep, Oklahoma City National Livestock Commission Co., predicted a flood of hogs on the market this fall and a drop in prices to 10@12¢ lb. He said the effects of cheaper pork will be reflected on the beef cattle market. Other factors which may affect beef consumption are the low prices of poultry and unemployment, he said. Mr. Heep predicted that prices for the early crop of lambs would be near last spring's prices.

J. B. Sisler, president, Clovis National Bank, told the group it would cost approximately $4,800 to provide facilities for feeding 100 head of cattle and $18,000 for 500 head.

Chicken Dumping Seen As Cause of Newcastle

GAINESVILLE, GA. — Dumping dead chickens along roadsides in this north Georgia area has caused health hazards and has been a factor in spreading Newcastle disease, it has been pointed out by health and law enforcement authorities.

Dead chickens were dumped in large quantities in some areas after they had died of Newcastle disease. The officials pointed out that dumping carcasses of animals and fowl, or other decaying matter, is a law violation which could cost violators heavy fines. They pointed out that dead animals should be well buried.

NEW BULK EQUIPMENT

HANLONTOWN, IOWA — A new hammer mill has been installed at the Farmers Cooperative Elevator here, and the firm has purchased two 15,000-bu. steel bins, three 10-ton bulk tanks and a bulk truck.

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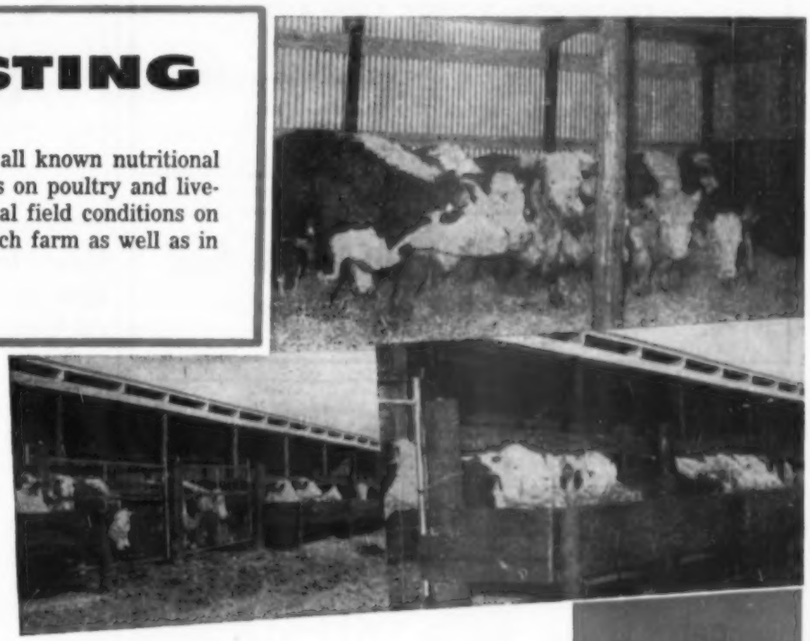

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New Molasses Grading System to Be Discussed At Control Meetings

COLLEGE STATION, TEXAS — A new system of grading blackstrap molasses on the basis of its moisture and carbohydrate content suggested by a Texas researcher will be discussed at the Association of American Feed Control Officials in Chicago in May and the Southern Association of Feed Control Officials meeting in Hot Springs, Ark., in June.

Dr. L. R. Richardson, department of biochemistry and nutrition at Texas A&M College, who developed the grades at the request of the U.S. Department of Agriculture, has been invited to speak at the two control officials meetings.

"Carbohydrates are the most important nutrients in molasses and should be considered in any measure of quality," he said. "Moisture is important because a high content will increase spoilage in mixed feeds."

Dr. Richardson divides molasses into three grades: superior, containing no more than 23.4% water and at least 53.5% total sugar; regular, containing 23.5 to 26.4% water and 48.5 to 53.5% sugar, and utility, with at least 26.5% water and 42.5 to 48.4% sugar.

A report on his study was issued recently by the USDA and is available from the Office of Information, USDA, Washington 25. The report is Marketing Research Report No. 302, "Factors in Developing Grades and Standards for Blackstrap Molasses for Feed." (Feedstuffs, Feb. 7, 1959.)

Wisconsin Feeder Pig Group Doubles Sales

DENMARK, WIS. — Sales and membership of the Wisconsin Feeder Pig Marketing Cooperative both doubled during 1958, according to a report at the annual meeting held here recently.

Norval Dvorak, general manager, said 1958 sales totaled $1.9 million, and the cooperative paid $1.65 million to member farmers in 28 Wisconsin counties. Membership, he said, was 2,153 in 1958, compared with 1,098 the previous year. The cooperative bought 106,270 pigs last year, compared with 47,251 in 1957.

Mr. Dvorak also told members that while a downturn in pork prices is expected, producers who buy better stock and cut costs through efficiency will profit in the next upturn of the cycle.

Cooperative members adopted a resolution giving the board of directors the authority to cancel contracts with members who fail to market quality pigs, violate the marketing agreement, offer substandard pigs, fail to market in a 12-month period and fail to "promote the best interests of the cooperative."

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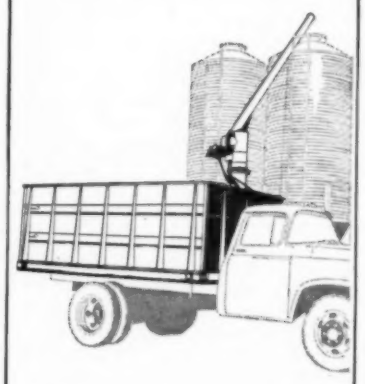

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Results of Lamb Tests Reported at Kansas Feeders Day

GARDEN CITY, KANSAS — Observations made of lamb feeding experiments with hygromycin, hydroxyzine, Trivermol drench, cobalt and stilbestrol were reported during the recent 25th annual Lamb Feeders Day conducted by the Garden City branch of the Kansas Agricultural Experiment Station.

Carl Menzies, instructor in animal husbandry, Kansas State College, and A. B. Erhart, superintendent, Garden City branch, reported that results of feedlot tests indicate that lambs not drenched with Trivermol, but fed 30 mg. of hygromycin per lamb per day gained equally as fast and efficiently as those drenched but not fed hygromycin. A tranquilizer, Tran-Q, failed to increase gains or feed efficiency in the feedlot, the researchers said.

Lambs given cobalt bullets gained slightly faster than their controls, they said, but because of the short feeding period and small number on test no definite conclusion was made.

Six hundred straight bred Rambouillet wether lambs were purchased for the tests. Seventy-five lambs were shorn, and all lambs, except one lot of 50, were drenched with 6 cc. Trivermol drench. Half the lambs in each lot were implanted with 3 mg. stilbestrol implants at the start of the test.

The standard feedlot ration, Mr. Erhart and Mr. Menzies reported, consisted of whole grain sorghum, sorghum silage, alfalfa hay and cottonseed meal. One lot was not drenched, but was fed 30 mg. hygromycin per lamb per day. Another lot was given 2.5 mg. Tran-Q tranquilizer per lamb per day. Still another lot of lambs was drenched twice. Tests were run for cobalt study also.

The test lot not drenched but fed the hygromycin had a daily gain per lamb of 0.338 lb. compared to a daily gain of 0.335 lb. for the double-drench lot. The lot given 2.5 mg. Tran-Q had a daily gain per lamb of 0.329 lb.

A comparison of the test lots showed that the lot drenched twice came the nearest to equalling the control lot in average feed cost per 100 lb. gain. The double-drench lot feed cost average was $12.09 cwt. gain, while the control lot figure was $11.96. The tranquilizer-fed group had a cost average of $12.89 and for the lot fed hygromycin the figure was $13.56.

Average total costs for each 100 lb. gain were: $18.34 for the control group, $18.41 for the double-drench group, $18.69 for the tranquilizer-fed group and $18.82 for the hygromycin-fed lot. Cost figures noted include 9¢ for each stilbestrol implant, 67¢ for hygromycin per lamb, 22¢ for Tran-Q per lamb and 3¢ per lamb for drench treatment.

Lambs treated with cobalt bullets produced an average daily gain of 0.369 lb. per lamb compared to 0.306 lb. for the control group.

Liberal Credit Terms In Hatching Industry Draw Sharp Criticism

KANSAS CITY — Hatcherymen who deliver chicks with little or no down payment and defer the unpaid balance until after the chicks reach laying age have attracted editorial criticism recently. Feed men "getting into the act via started pullets" were also mentioned.

This "strange way of doing business" was criticized by American Hatchery News, official organ of the American Poultry & Hatchery Federation, in a front page editorial in the March issue.

Entitled "Put a Damper on it—Now!", the editorial stated the following:

"No one could avoid being disturbed by the growing use of liberal credit terms in the sales of laying-type chicks. The industry should be particularly concerned over the failure of some hatcherymen to require little or no down payment at or before delivery time, with the unpaid balance deferred until after the chicks reach laying age.

"Such deals may be proper when adequately protected through chattel mortgages and other safeguards. Is a simple chattle enough? Some folks don't even bother to record them. Are credit terms sound when they do not include adequate interest for the use of money or a reasonable charge for the risk involved?

"We thought the hatchery industry had its share of poor businessmen some years ago when it was loaded with operators willing to gamble liberally every year by 'setting' without regard to orders. Even this hideous practice is overshadowed today by persons willing to wait still another six months after hatch date for their money without one extra dime of compensation or protection!

"If there are people in other industries selling perishable commodities on such a basis, we are not aware of them.

"We fear this strange way of doing business may be reserved for the exclusive use of the hatchery industry and perhaps members of the feed trade. It is necessary to include the feed trade because its members are getting into the act via started pullets.

"We heartily recommend to hatcherymen that they insist on some cash payment with each chick order (preferably three weeks prior to delivery time but no later than at delivery time).

"In the case of started pullets, insist on payment in full when the chicks are placed under the brooders . . . even better, when you set the eggs. If you don't follow a plan like this on started pullets, you are, in effect, selling the customer day-old chicks but waiting a full six months for your money. You are making him this generous and unprecedented offer without any security whatsoever. Further, you must shoulder all the responsibility and risk for the brooding period. Only Santa Claus can give away his merchandise, and he must have sponsors! Do you?

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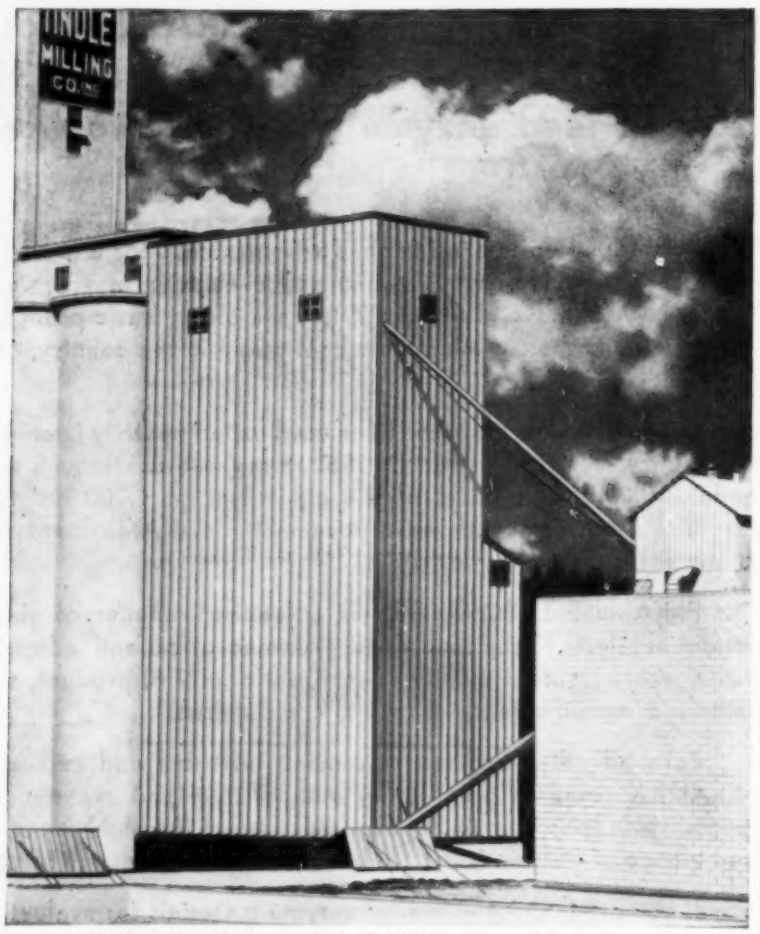

Tindle Milling Company, Springfield, Missouri, used Butler square tanks to create this modern, high-speed batch feed mixing plant.

Butler's New Square Bolted Steel Bulk Feed Tanks

Here are the Butler bulk tanks for the feed manufacturer who wants to go bulk in a big way. They're Butler's brand new Square Bolted Steel Tanks. Specially designed for high volume operations, these are heavy-duty tanks fabricated from steel plate—not galvanized sheets.

Vertical corrugations and a new self-cleaning girt help eliminate bridging. Clean out is fast . . . positive and 100% efficient – even with soft feeds and hard-to-flow ingredients.

Butler's new square tank design permits setting tanks flush against walls of existing buildings without wasting valuable ground space.

And, of course, Butler pre-engineering and mass production keep costs down to rock bottom . . . permits fast bolt-together construction that saves weeks to months of costly construction time.

Butler Square Bulk Tanks are available in individual capacities ranging from 18 tons up to 92 tons. Multi-tank installations can be tailored to fit virtually any volume requirement – no matter how large.

If you're in the market for a new feed mill such as Tindle Milling Co., or bulk load-out facilities, contact your nearby Butler bolted tank contractor today. Or, write directly to us for literature and prices.

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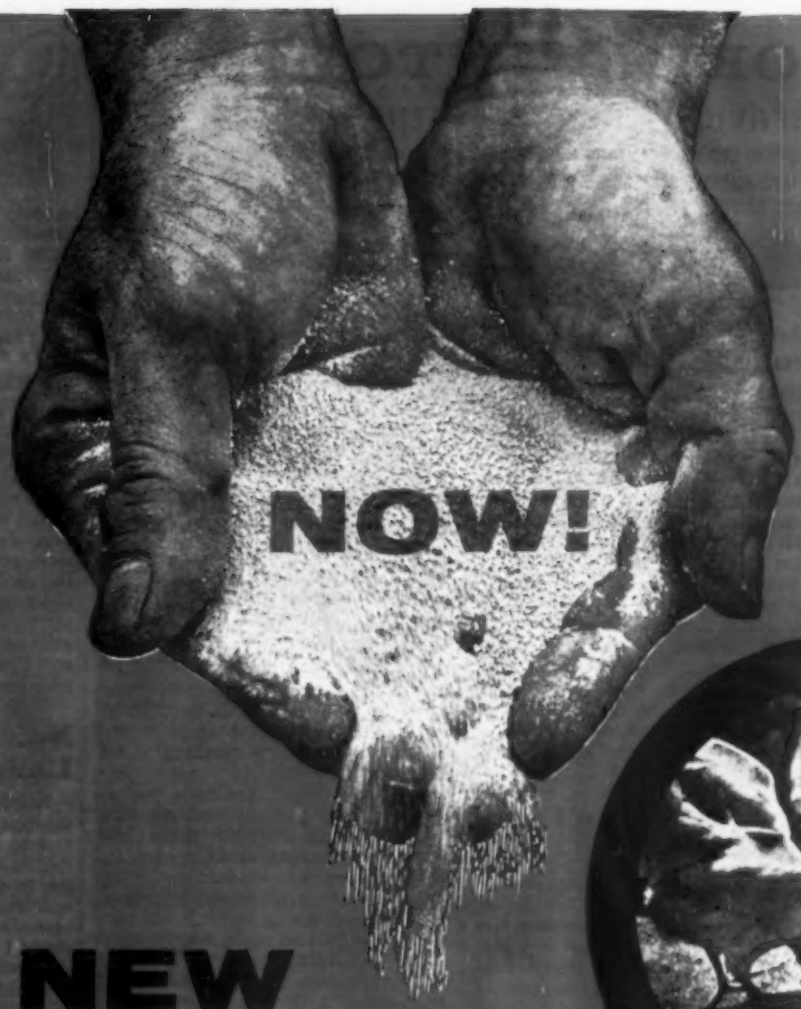

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wiring and then the low voltage output is run into the over-under con-

No. 7383—Bag packer, Bemis Bro. Bag Co.

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No. 7400 — Poultry pesticides, American Scientific Laboratories, Inc.

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NEW PRODUCTS • NEW SERVICE • NEW LITERATURE

DESCRIPTIONS OF NEW AND IMPROVED PRODUCTS AND SERVICES PROVIDED BY MANUFACTURERS AND SUPPLIERS ARE PRESENTED IN BRIEF FORM. FOR ADDITIONAL INFORMATION, PLEASE USE THE ACCOMPANYING COUPON.

No. 7435—Moisture Balance

A moisture determination balance has been announced by Burrows Equipment Co. The balance, according to company literature, is a combination drying unit and precision "Chain-O-Matic" scale. It provides easy measuring of the moisture con-

tent of a wide variety of products, the company says. The instrument can be used for testing solids or liquids and shows the moisture percentage on a dial to a plus or minus .01%. The operator can read the percentage of moisture loss directly throughout the entire drying cycle as the moisture is being driven off, the company says. Details are available by checking No. 7435 on the coupon and mailing.

No. 7434—Animal By-Product Booklet

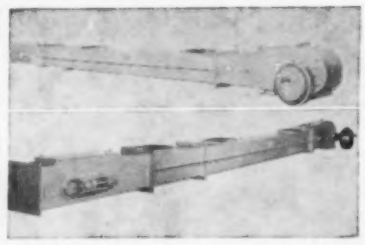
"Physical, Chemical and Flow Characteristics of Animal By-Product Feedstuffs (Bulletin 40)" is the title of a booklet being made available by the American Meat Institute Foundation. The bulletin reports data accumulated by the foundation's animal feeds division. According to foundation literature, the bulletin was published to help solve current problems or improve current design of bins, chutes and other facilities used in handling the various animal by-product feed materials. Information on the manner in which tests were conducted to study these problems is included in the booklet. For copies, check No. 7434 on the coupon and mail.

No. 7440—Grain Car Literature

General American Transportation Corp. announces the availability of an illustrated leaflet describing the firm's Dry-Flo car. Included is a discussion of design features plus detailed illustrations of various components of the car and a cut-away view of the inside of the car. A technical information sheet containing a general description and mechanical data and specifications is included. For copies, check No. 7440 on the coupon and mail to this publication.

No. 7437—Chain Drag Conveyor

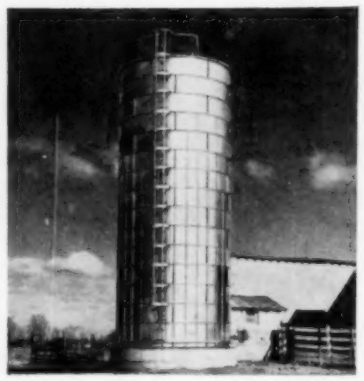
Development of a self-cleaning chain drag conveyor for handling



grains, dry feeds and dry chemicals, has been announced by Sprout, Waldron & Co., Inc. With the new type conveyor the materials are conveyed by means of drag blades mounted on hardened roller chains, moving continuously over a smooth steel slide, the company says. A built-in return circuit prevents overloading and choke-up. According to company literature, the major feature is that it provides for positive self-cleaning while utilizing multiple inlets and discharges. Material from the top inlets is conveyed to the end of the top slide where it falls through the chain and is picked up by the drag operating on the bottom slide. Any material not discharging through the outlets provided travels around the end and is returned to the top strand. Check No. 7437 and mail for details.

No. 7427—Steel Silo

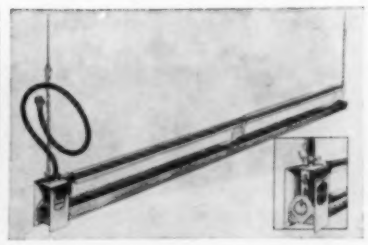
A "Steel-Bilt Silo," designed for storage of wet corn and all types of high-moisture grains, has been announced by Martin Steel Corp. The silo features automatic bottom unloading and has been constructed



to reduce feeding and labor costs and minimize spoilage, the company claims. Heavy, re-inforced walls of rust-resistant steel are used. The silos come in several sizes. More information is available by checking No. 7427 on the coupon and mailing to this publication.

No. 7443—Suspension Waterer

An all-purpose suspension type waterer has been introduced by Oakes Manufacturing Co. The No. 698 Suspension Waterer has a capacity of 200 hens or 250 broilers. An all brass positive action two-way valve operates on a gravity principle and will work on home or city water systems, the company says. The valve is adjustable by a nut set on a tension spring which holds water at the desired level. An adjustable trough is suspended at one end, inside the valve housing on a notched valve lever arm. Troughs are 8 ft. long and made from 22 gauge rust-resisting galvanized steel. M-shaped trough is 2⅞ in. wide and 1½



in. deep. Four key hold slots permit four reel adjustments for all sizes of birds. Details are available. Check No. 7443 on the coupon and mail to this publication.

No. 7426—Test Sieve Shaker Data

The availability of a data sheet on the TSS-31 electromagnetically vibrated test sieve shaker, designed for fast, accurate analysis, has been announced by Syntron Co. The illustrated sheet gives complete description, data and specifications on the sieve shaker, the company says. Also included is a listing on the fine and coarse sizes of U.S. and Tyler Equivalents in which the sieves are available. Copies can be obtained by checking No. 7426 on the coupon and mailing to this publication.

No. 7436—Over-Under Controller

Ralph C. Gardner & Co. has developed a magnetically-operated control to detect any over or under normal motor current demand. According to company literature, the control will stop any motor or feeding machinery and operate any signal or control system. It has an automatic restarting feature, the company says. A current transformer is slipped over a single motor lead without any cutting or interference with existing

Send me information on the items marked:

- ☐ No. 7426—Test Sieve Shaker Data
- ☐ No. 7427—Steel Silo
- ☐ No. 7434—Animal By-Product Booklet
- ☐ No. 7435—Moisture Determination Balance
- ☐ No. 7436—Over-Under Controller
- ☐ No. 7437—Chain Drag Conveyor
- ☐ No. 7439—Proportioning Systems
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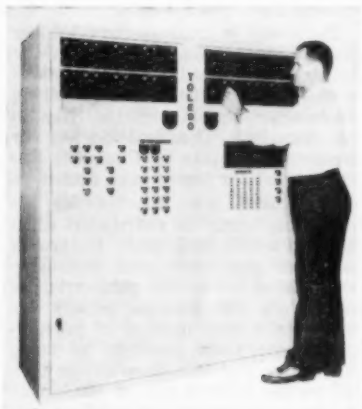
wiring and then the low voltage output is run into the over-under controller where it is stepped up to operational value. One controller can serve any sized motor of the same voltage, the company says. For details, check No. 7436 on the coupon and mail to this publication.

No. 7439—Proportioning Systems

Remocon automatic proportioning systems with remote controls have been announced by Toledo Scale, division of Toledo Scale Corp. The systems provide for remote setting of cutoff weights which can be established by either digital or vernier type controls or by Toledo batchboard, punched card or punched tape de-



vices. According to company literature other features of the system include: provision for pre-setting several proportioning formulas, single selector switch for changing of batch quantity without resetting individual ingredient weights or changing formula insert devises, provision for automatic weight recording and accessory options to meet the many varying requirements of individual proportioning requirements. For details, check No. 7439 on the coupon and mail.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number on the coupon and forwarding it to Feedstuffs.

No. 7370—Blackhead medication, Dr. Salsbury's Laboratories.
No. 7371 — Herringbone milking stall, James Manufacturing Co.
No. 7372—Injectible iron, American Cyanamid Co.
No. 7373—Animal health display, Bingman Laboratories, Inc.
No. 7374—Bulk hog feeder, Leach Manufacturing Co.
No. 7375—Control for hammermills, Schutte Pulverizer Co.
No. 7376—Bag packer, Bemis Bro. Bag Co.
No. 7377 — Pneumatic conveyor data, Sprout, Waldron & Co., Inc.
No. 8378—Bulletin on pulleys, Sprout, Waldron & Co., Inc.
No. 7379—Mobile feed mill, Seco, Inc.
No. 7380—Scoop control switch, Alden division, Amercon Corp.
No. 7381—Grain drier, Grain Drying Equipment Co., Inc.
No. 7382—Flexible coupling, T. B. Wood's Son Co.
No. 7383—Bag packer, Bemis Bro. Bag Co.
No. 7384—Automatic bag ejector, Richardson Scale Co.
No. 7385—Auger cattle feeder, James Manufacturing Co.
No. 7359—Magnetic separator bulletin, Stearns Magnetic Products.
No. 7386 — Data on fat addition, Sprout, Waldron & Co., Inc.
No. 7387—Coccidiosis book, Merck & Co., Inc.
No. 7388 — Bulletin on blowers, Young Machinery Co., Inc.
No. 7389—Car shaker data sheet, Syntron Co.
No. 7390—Pig creep feeder, Moorman Manufacturing Co.
No. 7391 — Movie on grit, Stone Mountain Grit Co.
No. 7392—Wall banner, Blatchford Calf Meal Co.
No. 7393 — Automatic hog feeder, Precision Equipment Co.
No. 7394 — Equipment catalog, Brower Manufacturing Co.
No. 7395—Power scoop data, Alden Equipment Division of Amercon Corp.
No. 7396—Poultry disease control, Associated Feed Products, Inc., and Naremco, Inc.
No. 7397—Bulk feed tanks, Agri-Tec Steel Corp.
No. 7398—Nutrient level card, Peter Hand Foundation.
No. 7399—Power shovel, Seedburo Equipment Co.
No. 7400 — Poultry pesticides, American Scientific Laboratories, Inc.
No. 7401—Loader for hopper cars, Productive Acres Manufacturing Co.
No. 7402—Bulletin on motor starters, Richardson Scale Co.
No. 7403 — Elevator equipment, Munson Mill Machinery Co.
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No. 7405—Silo counter display, Fla-

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No. 7417—Data sheet on shovel, Munson Mill Machinery Co.

No. 7418—Bovine mastitis information, Chas. Pfizer & Co., Inc.

No. 7419 — "Vibratory" feeder, Eriez Manufacturing Co.

No. 7420—Screening feeder, Syntron Co.

No. 7421—Supplement hog feeder, Brower Manufacturing Co.

No. 7422—Plant planning article, Sprout, Waldron & Co., Inc.

No. 7423—Antibiotic for mastitis, E. R. Squibb & Sons, division of Olin Mathieson Chemical Corp.

No. 7424—Portable pellet mill, Dodgen Industries.

No. 7425—Steam boiler bulletin, Sellers Engineering Co.

No. 7426—Test sieve shaker data, Syntron Co.

No. 7427—Steel silo, Martin Steel Corp.

No. 7428—Egg packaging material, Independent Carton Co.

No. 7429—Gross weigher, Thayer Scale Corp.

No. 7430—Polyamino acids data, Mann Research Laboratories, Inc.

No. 7431—Vibration inducer, Martin Engineering Co.

No. 7432—Conveying system bulletin, Sprout, Waldron & Co., Inc.

No. 7433—Rumen literature, the Amburgo Co., Inc.

No. 7434—Animal by-product booklet, American Meat Institute Foundation.

No. 7435—Moisture determination balance, Burrows Equipment Co.

Louisiana Nutritionist Wins Chemistry Award

BATON ROUGE, LA. — A Louisiana State University dairy nutritionist whose work in antibiotic research led to the use of antibiotics in the preservation of poultry and fish has been presented the Charles E. Coates Memorial Award.

The award, which is given annually in honor of the late Dr. Coates, head of the Louisiana State University chemistry department for more than 40 years, was presented to Dr. Louis L. Rusoff, dairy nutritionist and professor of dairying, at a dinner attended by members of the Baton Rouge chapters of the American Chemical Society and the American Institute of Chemical Engineers, who sponsor the annual award.

The award is presented to a leading chemist or chemical engineer in the Baton Rouge area for contributions to chemistry or chemical engineering (including publications), activity in the American Chemical Society or American Institute of Chemical Engineers and for community activities.

Dr. Rusoff was selected for his pioneering work in nutritional antibiotic research and other studies in biological and nutritional chemistry which have led to the publication of more than 100 scientific papers. He developed a new method of preserving cheese from spoilage by using antibiotics, and this discovery in turn led to the current use of antibiotics in the preservation of poultry and fish.

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Pellets Improve Feed Conversion In Cattle Test

By Special Correspondent

TIFTON, GA.—Mixed high concentrate feeds produced the best daily gains in a "performance test for beef bulls" at the Georgia experiment station at Tifton, but the same ration, when pelleted, showed better feed conversion.

D. W. Beardsley, Georgia nutritionist, told the cattlemen attending the field day and bull sale that results of the feeding trials "open new avenues in research to determine whether pelleted or mixed rations prove the more profitable for the commercial feeder."

The evaluation test, the first in Georgia, was conducted by Byron L. Southwell and W. C. McCormick of the Tifton station. The results were "so gratifying, it will be repeated next fall and winter," Mr. Southwell said.

During the test, the bulls were divided into seven pens with the basic ration ground snapped corn, molasses, cottonseed meal and ground coastal bermuda hay, in various formulas.

The control group was fed coastal bermuda hay, free choice, in addition to the concentrate, and gained an average of 2.71 lb. daily with a feed conversion of 10.29 lb. of feed for each pound of weight gained.

Pen 1, fed the concentrate at a 70% level with 30% roughage, all mixed, had a daily average gain of 2.99 lb., with a feed conversion of 8.86; while in pen 2, the bulls were fed the same ration in pellet form and gained 2.62 lb. per day on a conversion ratio of 8.47.

Pen 4 received a mixed ration of 55% concentrate with 45% roughage to gain 2.80 lb. per day with a conversion of 9.75, while pen 5, receiving the same ration in pellets, gained 2.70 lb. with a conversion of 8.96.

Pen 6 bulls were fed a mixed ration of 40% concentrate and 60% roughage to gain 2.48 lb. per day on a conversion of 10.44, while pen 7, with the same ration in pellet form, gained 2.82 lb. per day with a ratio of 9.15.

Dr. Beardsley said it was the opinion of the researchers that the higher concentrate pellets provided the animals with more actual nutritional value, indicated by the lower feed conversions, but did not "stay with the animal as long," thereby reducing the daily gain. He added there was some significance in the fact that the bulls ate less of the pelleted ration, and consequently did not show the average daily pounds the other lots did.

In individual performance, a Charbray bull from Warrior Cattle Farms topped the test with a weight per day of age of 2.78 lb., and had an average daily gain of 3.21 lb. for the 112-day test period.

A Polled Hereford bull entered by E. D. Raulerson had the highest average daily gain of 3.32 lb., with a 2.40 lb. weight per day of age.

Executive Staff Told For Hooker Division

NIAGARA FALLS, N. Y.—The executive staff of the phosphorus division, Hooker Chemical Corp., Niagara Falls, has been announced by L. Leonard Bryant, recently appointed general manager of the now autonomous division. The phosphorus division has established its headquarters at Jeffersonville, Ind., near Louisville, Ky., and also has plants at Columbia, Tenn.; Adams, Mass., and Dallas, Texas.

In addition to Robert E. Noble, just announced as division assistant general manager, Barrett B. Brown, formerly division technical manager, is now named division production manager. Edward J. Bissaillon, who has been assistant production manager, succeeds Mr. Brown as division technical manager, and Oscar D. Crosby, formerly division general production manager, is appointed to the newly created position of manager of phosphate properties of the division.

John B. Sutliffe continues as division sales manager, and James D. Hogan remains division comptroller.

Florida Beef Cattle Short Course Set

GAINESVILLE, FLA.—The annual Florida beef cattle short course is set for April 16-18 at the University of Florida Agricultural Experiment Station here.

Dr. T. J. Cunha, head of the University of Florida animal husbandry and nutrition department, said topics will include vertical integration, tranquilizers, meat-type steers, protein needs, selection and development of herd bulls, production practices, future outlook and the shipping and selling of cattle in Latin America.

Outside speakers, in addition to representatives of cattle breed associations, are: Dr. R. A. Long, University of Georgia; Dr. W. H. Hale, Chas. Pfizer & Co.; R. B. Hunt, Doane Agricultural Service; Dr. I. M. Wofford, Southern Nitrogen Co., and Ralph F. Hyatt, Schering Corp.

The three-day course will feature a tour of the purebred beef experimental farm and the beef research unit of the station, Dr. Cunha said.

PLANS NEW WAREHOUSE

BUFFALO, N.Y.—The Cooperative G.L.F. Holding Corp. has filed plans with the Buffalo division of buildings for a new $100,000 warehouse at 333 Ganson St. The building is to be 323 ft. long, and width will vary from 52 to 62 ft.

Output of Mississippi Eggs Remains Stable

JACKSON, MISS. — Commercial egg production in Mississippi for 1958 was virtually unchanged from totals for the previous year, the Mississippi Department of Agriculture & Commerce has reported.

Total egg production, including farm and commercial flocks, was estimated at 52 million dozen, about the same as 1957 while the average number of layers was 3.8 million, compared to 3.9 million a year ago.

The highest rate of lay was during April and May and the lowest in December, as the rate of egg production per layer on hand during 1958 was 163 eggs compared to 161 eggs in 1957.

HOLDS OPEN HOUSE

PALMER, IOWA—Open house was held here recently at the new $100,000 feed mill installed by the Farmers Cooperative Co. Don Reiter is manager.

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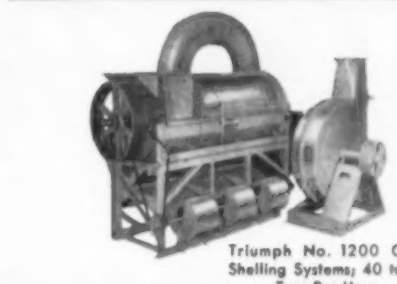
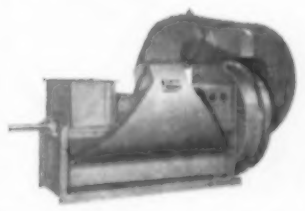
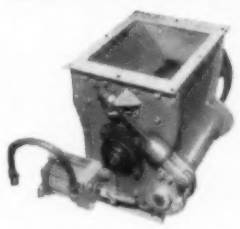
Cut Your Costs with TRIUMPH GRAIN EQUIPMENT


Triumph No. 1200 Corn Shelling Systems; 40 to 50 Tons Per Hour.


Triumph New No. 900 Corn Sheller, 30 to 40 Tons Per Hour.

Triumph Designed Valves, Distributors, Spouting, and Elbows for Grain Spouts and Cob Pipes.

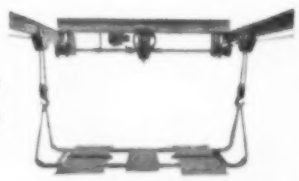
Engineered for efficient, dependable, low cost operation


Triumph Cob Crusher with Air Cushioned Breaker Bar.

Triumph Pit Screw Feeder with Hydraulically Adjusted Variable Speed Drive.

Triumph Shuck Blower and Shuck Separators, Cyclones and Retarders.

Triumph Ear Corn Crusher Attachments; Single and Double Roll.


Triumph Heavy Duty Truck Hoists; Low Overhead Type.

Triumph Corn Shellers for Feed Mills; Model Nos. 100, 154, 300 and 500. Capacities up to 22 Tons Per Hour.

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Eastman Kodak Company

JOE BROOKS

BY AL P. NELSON

Make Your Promotion Different

Art Keller was doing his barn chores in late afternoon, prior to milking, when his buxom wife came in. She carried the weekly newspaper in her hand.

"Art!" she called as he opened an overhead bin slot and let grain pour into his feed cart. "What do you think that Joe Brooks is going to do now?"

Her tall, lean husband looked up momentarily. "I wouldn't have the slightest idea, Myrt. But whatever he's gonna do I won't be surprised. That guy will do anything to get more farmers to come into his store and mill."

"He's gonna stage a Black Derby Day," said his wife. "Every farmer who comes to his mill next Tuesday wearing a black derby gets a $1 merchandise certificate. Of course, Joe wants all the derbies, too."

"To heck he does!" exclaimed Art Keller. "What do you suppose he wants all those derbies for? A dollar in trade ain't so bad, though. Haven't we got some derbies up in the attic, Myrt?"

His wife chuckled. "We sure have. When Uncle Willie lived with us he had quite a collection, you know. I've got them in a box in the attic. Poor Uncle—he was such an Al Smith fan. Remember, how he used to tell us how he staged a big black derby parade in town in support of Al Smith?"

"Yup," called Art, closing the grain bin door. "Well, now I get a chance to wear one of those derbies and get $1 in trade. Hey, we're supportin' Grandpop. He's a member of this family. We'll give him a derby to wear, too. That'll make $2 in trade I can get."

"And the hired man, too," suggested his wife. "That makes $3."

Art Keller grinned. "Gee, I wonder if Pete Anderson will read that ad. He's got three boys on the farm with him, and two grandfathers. Wow! Joe Brooks will lose money on that family."

"Don't you worry about that fellow losing money," his wife said. "His mill is getting bigger and better equipped each year and his stomach is getting bigger, too. He's not starving, Art."

"No, I guess not," replied her husband. "Say, you wear slacks most of the time around the farm. Can't you wear a pair that day, tuck your hair up under the derby? Maybe we can get an extra dollar for you, too."

"Oh, come now," said his plump wife. "You know I can't disguise everything I got. At least not since I quit reducing. But I am going to that sale!"

"You are? I thought this was for men only."

For Women, too

His wife snorted. "Oh, no. Listen to this: each of Joe's employees is going to wear a certain number. He's got seven employees, he says. An alarm clock, with the face covered, is going to ring every half hour, and whatever customer a certain numbered clerk is waiting on gets a prize. It'll be a different clerk each time, of course. Maybe I can get in on that."

"Man!" exclaimed Keller. "Everyone certainly is going to demand fast attention from clerks that day. Gosh, Joe's cash register is going to run hot gears."

"I think so, too. This ad copy says that when the alarm clock rings, if the customer charges his purchase he'll get a certain type of prize, but if he pays cash, he gets a better prize. He has to choose his method of payment before he is told what his prize is."

"Hey, how about that," echoed Keller. "That's slicin' the ham pretty thin, ain't it? Wonder if you get a special discount for paying cash, in addition to the 2%."

"It doesn't say so."

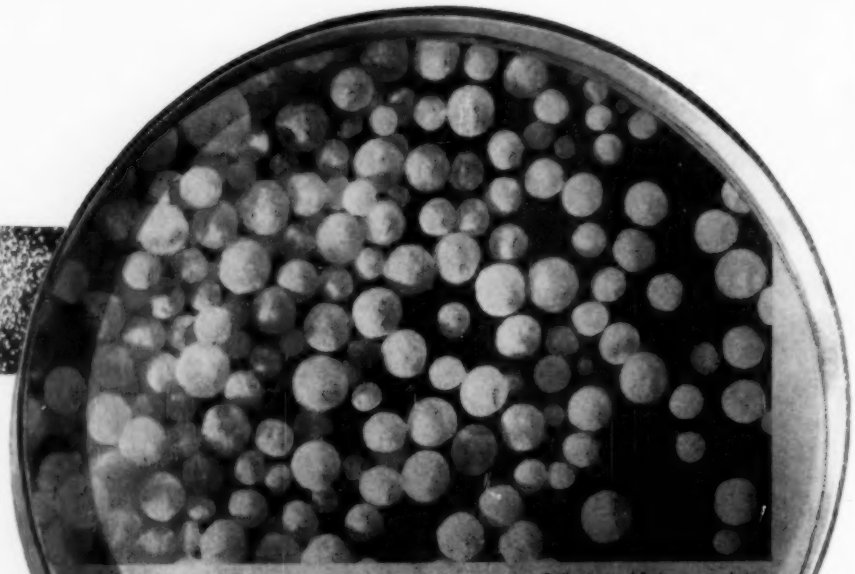
Art Keller dumped silage from one car into the dairy stall feeders and then poured some ground grain on top. "Myrt," he said, "we farmers have been asleep at the switch. If we would go out and promote our business the way feed dealers and other business men do theirs, we'd probably have so darn much business we wouldn't know what to do with it. Why that Joe Brooks puts on about a dozen promotions per year."

"That's right," his wife returned. "And all us farmers do is grow crops, raise poultry, pigs and cows and never get out and yell about it like the merchants do." She hesitated.

"All we do is complain because we

* "Micro-Prilling" makes the difference!

Grace Micro-Prilled Urea Feed Compound shown Actual Size.



Micro-Prills shown 12 times actual size. The smooth round balls flow freely, don't cake.

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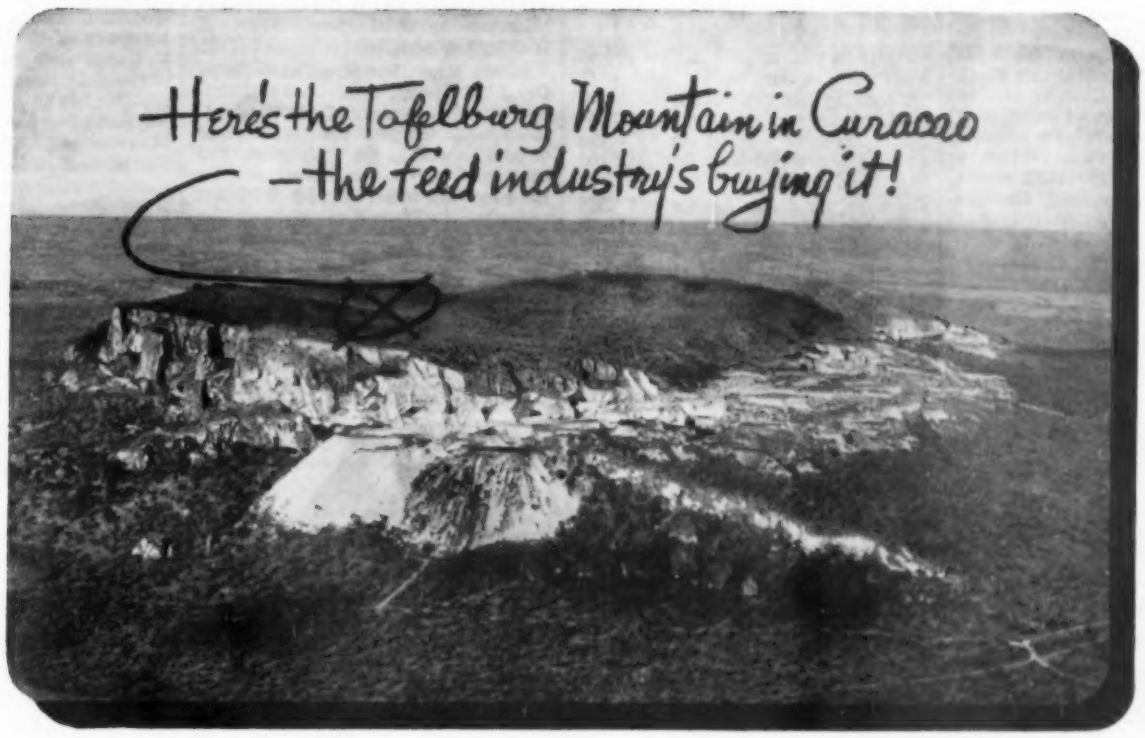

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1,000,000 tons! But that's only a small part of the Cura-Phos still to be mined. You can get it in carload lots from stock-points in Philadelphia, Pa., Jacksonville, Fla., and New Orleans, La.

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Advances Reported in

the 100% level and a third was

also indicate that underfed heifers

the feedlot, Dr. Story said. Although

got so many troubles," she finally added.

"That's for sure," returned Art. "By golly, when the next meeting of the Grange is held I am really going to get up and give those fellows tarpaper. I'm going to tell them we've got to promote farm products like Brooks and other dealers promote feed and farm supplies. We can copy them."

"And if you get weak-kneed at the meeting I'll jab you one," said his chunky wife. "Now look at this Black Derby idea of Joe's. Chances are we had no idea of going to town next Tuesday and spending any money. Then along comes Joe's ad and we're rarin' to go in and try to get something from him for nothing. Chances are he'll sell us plenty. And lots of other farmers will also plan to come to town, just on account of that promotion. Huh, us farmers oughta get wise soon and make the public dizzy with some of our promotions."

"Lemme see that ad." Art Keller took the newspaper from his wife's hand and scanned the copy. "All day suckers for farm kids, corn cob pipes for the men, dainty notebooks for milady's pocketbook, and perfume samples for teenage farm girls. Why, Myrt, Joe's gonna have a crowd unless he gets a bellyache and can't come to work that day."

"Well, if he's sick, his men can ring up the sales. Tonight after supper I'll go up in the attic and look over poor Uncle Willie's black derbies."

"And be sure to pick out the oldest and most worn ones," Art said. "Remember, we can't bring 'em back. Joe'll make us turn them in. Say, don't forget to remind me to bring along another hat that day. My old bald head will freeze coming back if Joe cops my derby. Lucky this ain't a contest where you have to leave your pants there."

"Oh, you!" said his wife. "I never saw anyone who gets such crazy ideas. Don't forget to come in for supper when I buzz—or Grandpa and I will eat all the apple pie."

Farm Bureau Livestock Department Holds Winter Meeting

DAVIS, CAL.—Topics discussed at the first winter conference of the California Farm Bureau Federation livestock department at the University of California at Davis included pelleting, artificial insemination of beef cattle, and livestock marketing.

In his discussion of pelleted feeds, Dr. J. H. Meyer, department of animal husbandry, pointed out that pelleted feeds increase the total intake of feed as well as the daily gains, and that hay pellets are more palatable than loose or baled hay. He said that while pellets are not more digestible, they do increase the rate of digestion.

Dr. Meyer said that where concentrates are added to the hay in making pelleted feeds, it has been found that for the best gains, a total fiber count of 22% is recommended, rather than the customary standard of 16%. Experiments with different types of hay pellets are continuing, Dr. Meyer said, and the wafer-type pellet offers a favorable comparison with hay in storage space required, quantity of waste and amount of labor required.

Artificial Insemination

A panel discussion on artificial insemination of beef cattle was moderated by Reuben Albaugh, livestock specialist, University of California. Members of the panel were: Dr. P. T. Cupps and Dr. M. T. Clegg, both of the department of animal husbandry; Dr. Blaine McGowan and Dr. J. W. Kendrick, both of the department of veterinary medicine, and T. K. Clark, California farm bureau.

Mr. Albaugh pointed out that if some of the major problems can be overcome, it will be possible to sire as many as 1,000 calves a year, cost of production can be reduced and a more uniform calf crop as to type and age can be secured.

Livestock Marketing

A panel discussion on livestock marketing problems was conducted by Dr. G. Alvin Carpenter, extension marketing specialist at the University of California. Panel members were Fred Frick, cattle feeder and vice president of the California Farm Bureau Marketing Assn.; Stanley Cox, range operator and feeder; William Coon, Armour & Co., and Hillis Hubbard, Del Pero Mondon Meat Co., Marysville, Cal.

In introducing the subject, Dr. Carpenter emphasized the growth and inter-dependence of the various segments of the livestock industry; rapid changes which have been and are taking place, particularly in livestock feeding; the growth of the large commercial feedlot, no longer dominated by the Corn Belt, and the more acute problem presented by consumers.

Mr. Frick said that cattle feeders have come a long way toward stabilizing the supply of beef coming to market. He mentioned that in his operation, efficiency has been increased by 20% or better, and future improvement is contemplated.

Mr. Cox emphasized the important problem for those seeking replacement cattle in finding the class of livestock to fit their own needs. The supplementary problem to this, he commented, is to find the outlet that will secure the most value for the livestock when they are saleable.

N.H. Meeting Attended By Co-op Feed Men

CONCORD, N.H.—Representatives of several feed organizations were among those attending a recent meeting here when the New Hampshire Council of Cooperatives was organized "to promote a better understanding of cooperative farm groups."

W. R. Amidon, manager of the New Hampshire-Vermont Breeding Assn., East Concord, was named acting chairman.

Present at the initial session were Harold Chase, Merrimack Farmers' Exchange, Inc., operator of a feed mill in Bow and more than a score of feed stores throughout New Hampshire; Philip Lord, Warner, a representative of the Eastern States Farmers Exchange, and Eli Wiggin, Springfield, Mass., also connected with Eastern States.

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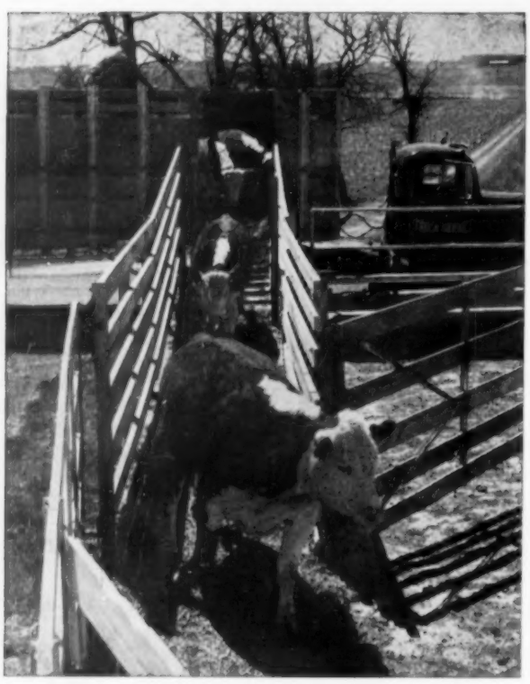

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	26	434.7	405	29.6	6.89
Treated with SPARINE, 0.5 gm./lb. body weight	73	349.6	340.25	9.25	2.6
	39	350.05	340	10.1	2.9
	4	488.25	467.5	21.25	4.3
	27	464	448	15.7	3.4
	59	447.3	434	13.5	3.01
	59	446.65	433.3	13.3	3.04

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"PRODUCTS OF PROGRESS"

Advances Reported in Immunization Against Parasitic Diseases

GLASGOW, SCOTLAND—A "major breakthrough" into the problem of immunization against parasitic diseases has been announced by the British Information Services. The work was done by scientists of Glasgow University in collaboration with the research division of Allen & Hanburys, Ltd., British pharmaceutical firm.

At present the breakthrough applies principally to a widespread cattle disease known as "musk" or "hoose" in Scotland, which is a form of pneumonia. The report indicated, however, that research into the field of associated diseases, both animal and human, is going on, and that the latest announcement is expected to be only the beginning of a successful campaign against all known parasitic diseases.

The new discovery is based on the use of X-rays on living larvae of the lungworm. This resulted in finding a basis for a vaccine which could be easily administered by veterinary officers, and which conveyed immunity without giving the disease.

Full-scale field trials on the new vaccine started in 1957, the virus having been prepared and used on a laboratory scale the previous year. Several thousand cattle were used in the first field tests in Scotland.

"By last year it was possible for the scientists to form definite conclusions on their years of work. These were so satisfactory that it was decided to allow the vaccine to be produced on a commercial scale, though as yet control is being exercised through veterinary channels," the British Information Service explained.

"The incidence of 'hoose' in cattle varies with rainfall, rather than with temperature. Areas of high rainfall tend to be more heavily affected than more arid countries. The U.S., Canada, Australia and New Zealand all suffer heavy losses through this lung condition of cattle. Other countries affected include Germany, France, Scandinavia, South Africa, Kenya and South America."

Limited-Feeding Plan For Dairy Heifers Boosts Milk Output

FT. COLLINS, COLO.—A limited-feeding plan for dairy heifers was outlined by Dr. J. K. Loosli, Cornell University nutritionist, at Colorado State University's Livestock Days held here recently.

He told persons attending that Cornell nutrition studies indicate that it may pay to deliberately underfeed dairy heifers during their growing period.

"This finding contrasts sharply with the widely held belief that dairy heifers should be stuffed with feed so they will grow out as quickly as possible," he said.

Feeding experiments were started at Cornell in 1947, when scientists divided a uniform lot of dairy heifers into three groups. One group received a ration of milk, concentrate and hay that amounted to only 65% of the feeding standards usually recommended. Another group was fed at the 100% level and a third was stuffed with a ration of 140% of the usual standard.

"The underfed heifers received a ration that was deficient only in energy, not in essential nutrients," Dr. Loosli said. "While the animals looked rough and scrawny, they did not suffer symptoms of nutritional deficiency."

At first calving, all three groups were shifted to normal feeding levels. During the first lactation, the underfed heifers produced only slightly less milk than the others.

But, after that, he said, the underfed heifers quickly caught up. They produced an average of 2,000 lb. more per lactation than their well-fed sisters.

There was little difference in fertility levels during the first breeding period. Later, however, the heifers grown on the austerity diet proved slightly more fertile than their stablemates.

The Cornell studies, as well as studies conducted in Scandinavia, also indicate that underfed heifers can look forward to a longer productive life, he said.

Dr. Loosli added that the research may have many implications on the early nutrition of all female breeding stock. Other researchers now are conducting studies to find out if these findings also apply to sheep, swine and beef cattle, he said.

Another speaker at the conference on sheep, cattle and hog production, feeding, breeding and marketing was Dr. C. D. Story, animal husbandman at Colorado State University, who spoke on the effect feedlot conditions can have on the feeder.

He said muddy feedlots caused by heavy late winter and early spring moisture slashed daily weight gains in feedlot cattle by nearly 50% in a Colorado analysis of feedlot operations.

In a test lot, cattle which had been averaging a daily gain of 2.5 lb. dropped to a daily rate of gain of 1.39 lb. in March and April when rain, snow and thawing ground muddied the feedlot, Dr. Story said. Although the problem is serious, he said, several other factors such as concentration of cattle in the lot, type of soil, slope of the ground and maintenance practices can make a considerable difference in the rate of gain.

Dr. Loosli, who also discussed meat animal production, said the time of high protein feeding is extremely important in getting a profitable lean-fat ratio in the finished animal.

Buys Dog Food Firm

CHICAGO — John Morrell & Co., Chicago meat packing firm, has acquired two specialty packing plants. One is Key Brands Dog Food Co., Los Angeles. Key Brands has produced Red Heart dog food for the Morrell company on a contract basis for several years. The other firm is Saratoga Meat Products Co., Chicago, a sausage firm which sells primarily in the Chicago area.

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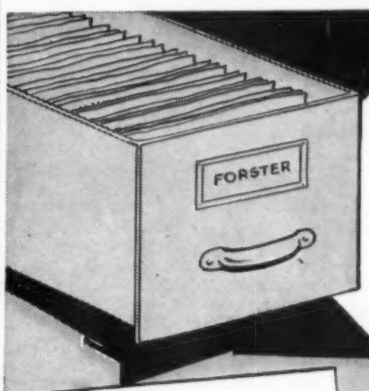
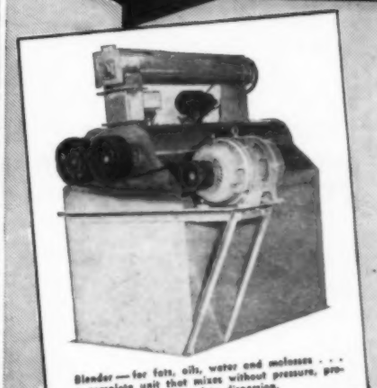
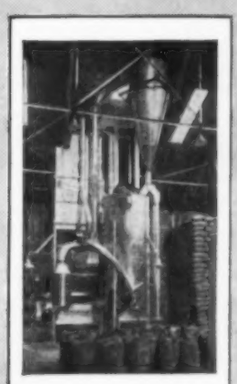
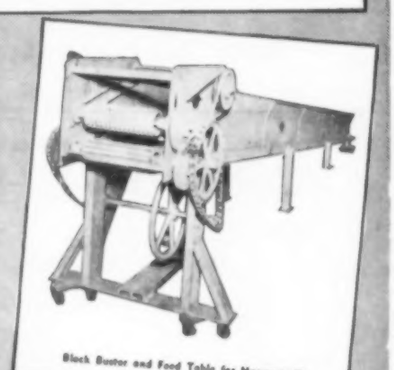


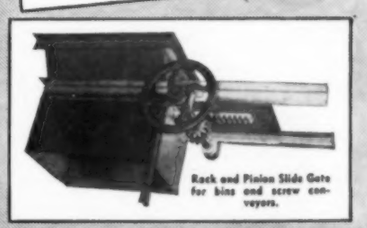
FILE and Remember..

Here in thumbnail style are just a few of the many feed processing and related units available from FORSTER. From FORSTER, you can buy the best in hammermills, mixers, blenders, etc. . . . from a single unit to a turn-key plant. Send today for more complete data on these units – or on any other equipment for feed production and grain handling. File this data to use in your remodeling and expansion plans.


Blender — for fats, oils, water and molasses . . . a complete unit that mixes without pressure, provides complete dispersion.


Blending installation, showing Blender, dust control and Bag Cleaner.


Block Buster and Feed Table for Hammermill.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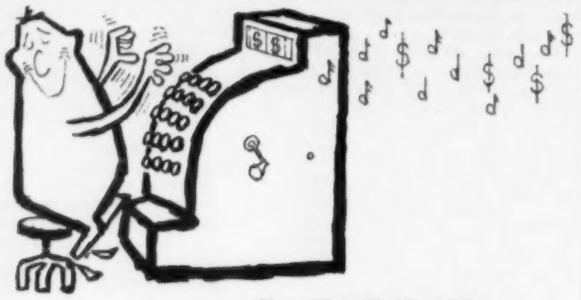

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Oyster Shell Products Company
Mobile, Alabama

Feed Control Comment

By BRUCE POUNDSTONE

Secretary, Association of American Feed Control Officials

Kentucky Agricultural Experiment Station, Lexington

Feed Law, Contract Feeds

The Jan. 24, 1959, issue of Feedstuffs carried an item indicating changes were under consideration to clarify the application of the model feed bill to feeds sold under contract. The uniform feed bill and regulations committee, made up of representatives of the Feed Control Officials Assn. and the American Feed Manufacturers Assn., held two meetings on this subject. The committee reports contract feeding varies widely and feed furnished under certain types of contracts should be subject to the bill.

Where the feeder's income might be affected by the composition and quality of the feed, the feeder is entitled to the usual safeguards provided by feed control laws. If the feeder's income is fixed regardless of feed conversion, mortality, or other factors then registration would not be required and the feed not subject to the usual inspection and analysis procedures, the committee reported.

To implement this thinking the committee proposed that section 3 (b) of the uniform feed bill be modified to read:

"The term 'distribute' means to offer for sale, sell, or barter commercial feed or customer-formula feed, or to supply, furnish or otherwise provide commercial feed to a contract feeder. The term 'distributor' means any person who distributes."

It was further suggested that an additional paragraph be added to section 3 to read somewhat as follows:

"The term 'contract feeder' means a person, other than a person performing his duties as an employee of a distributor, who feeds commercial feed to animals pursuant to a contract whereby such commercial feed is supplied, furnished or otherwise provided to such person and whereby such person's remuneration is determined all or in part by feed consumption, mortality, profits, or amount or quality of product."

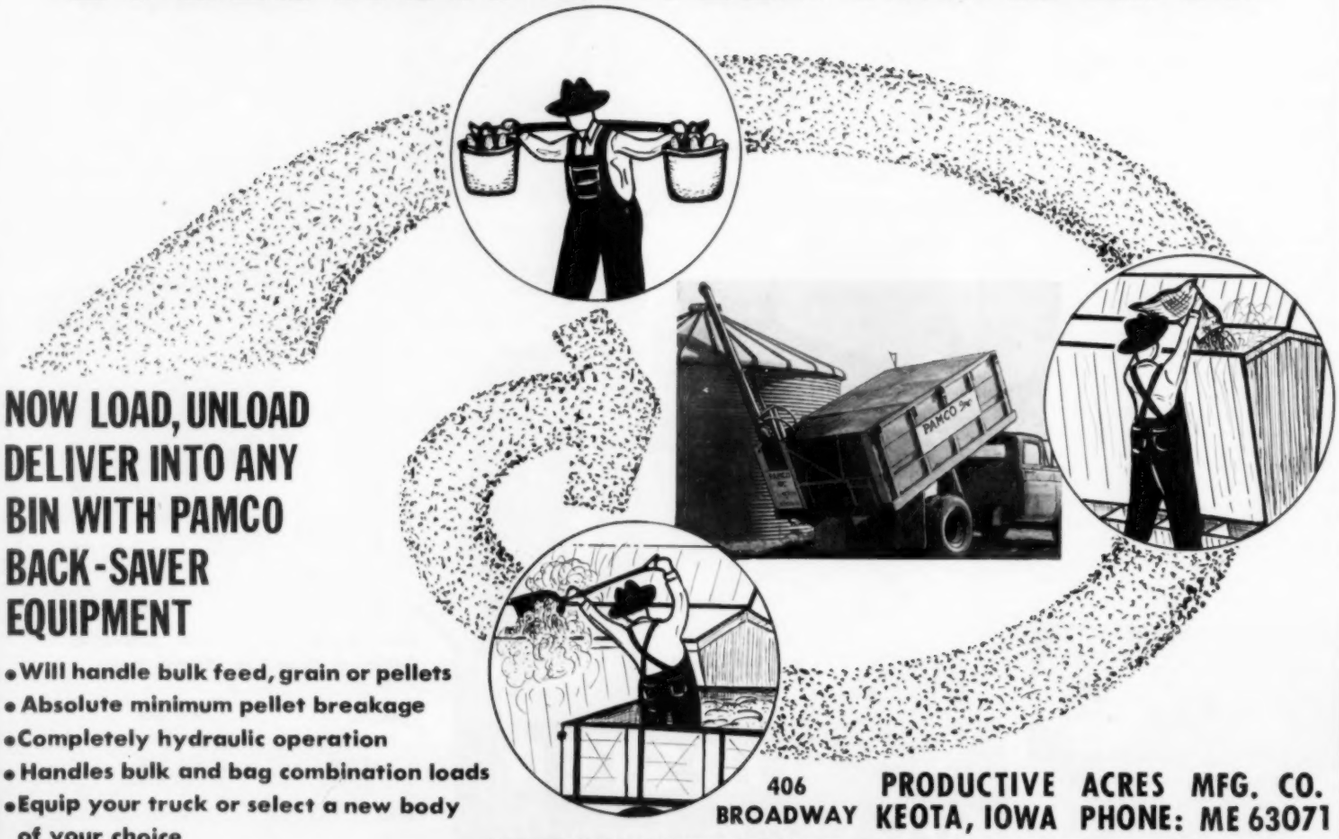
These suggestions are now being considered by control officials and feed manufacturers and will come up for discussion during the meetings in Chicago following this year's annual convention of the American Feed Manufacturers Assn. Comments and suggestions from manufacturers should be sent to Ed Glennon, president, American Feed Manufacturers Assn.

Feed Officials Handbook

ERRATA — Some typographical errors have been called to the attention of the secretary and changes should be made in copies of the 1959 official publication of the Association of American Feed Control Officials as follows:

● Page 29, Definition F-1 Corn Cob

EVOLUTION OF FEED HANDLING



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- Equip your truck or select a new body of your choice
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OTHER INSTALLATION POINTS: Portland, Ore., East Grand Forks, Minn., Englewood, Colo., Mooresville, Ind., Tulsa, Okla., Jefferson, Ga.

Fractions—The last part of the last line following the semicolon should read "e.g., Corn Cob Fractions, Hard Woody Ring and Beeswings." The words "hard" and "woody" are misspelled in the original printing.

● Page 127 in the fifth line in the last paragraph under Method for Determination of p-Arsanilic Acid in Feeds, Official—The parenthetical expression should read "(1 ml = 2 mmg arsanilic acid)." The printing shows only "mg" instead of "mmg."

● Page 41, Definition T-9—The first word in bold type should read "ESTER." The last word in the third line should also be "ester."

● Page 41, Definition T-10—The first word should read "Fat."

The secretary will appreciate knowing of any other corrections that should be made.

COMMITTEE ASSIGNMENT CHANGES — Several additions and changes have been made in committee assignments given on pages 6-7. R. H. Guntert of Kansas has replaced William Wright in the list of control officials on the medicated feed labeling committee. From the drug industry, S. F. Kern, Eli Lilly & Co.; E. O. Krueger, Abbott Laboratories, and J. M. Young, Merck & Co., replace the names of the persons shown from the drug industry. Added to this committee from the feed industry are A. J. Smith, McMillen Feed Mills; B. L. Gibbs, Hales & Hunter Co., and H. L. Schilt, Ralston Purina Co.

The name of L. E. Bopst should be added to control officials on the uniform feed bill and regulations committee and J. T. Redwine, Quaker Oats Co., should be substituted for W. M. Mothersell as an industry representative.

The following names should be added to the analytical methods for new medicated products committee: William Wright, Washington, D.C., as a control official, and S. F. Kern, Eli Lilly & Co., for the industry.

An additional committee should be listed entitled "Custom Mixing of Drugs in Feeds" consisting of R. C. Berry, Virginia, chairman; G. A. Triggs, Mississippi, and J. L. Clough, Delaware.

Ingredient Approval

How does one proceed in getting a new feed ingredient cleared and accepted for use?

1. It must be thoroughly tested and found to be acceptable and useful. It must be shown that it is not toxic or harmful. The research evidence demonstrating the usefulness should be available indicating clearly what the purpose is and that it serves that purpose.

2. The matter should be reviewed by the appropriate investigator in the Association of American Feed Control Officials. This may involve checking with more than one authority in state research organizations or federal research groups.

3. An appropriate "common name" must be worked out. At this point the suggestion of the manufacturer or user of the product is the beginning point. The investigator may take the lead in contacting the necessary authorities. If it is a matter that can be submitted to a meeting of the national association before adoption that will be done. If it is a proposal that comes at a time when it would represent undue delay to wait until an annual meeting then a proposal will be worked out for temporary or conditional use. At the next annual meeting of the association the term is submitted for official recognition.

4. Definitions are always submitted in a tentative status and remain in such status until becoming "official." This may occupy several years.

NOTE—There is nothing in this procedure that prevents almost immediate use of an ingredient if it can be shown that it is needed and a common name can be worked out on a tentative basis. Further, it is not necessary that all ingredients be defined in the annual publication of the Association of American Feed Control Officials before use. There are several ingredients used in feeds, some having been used for many years and still are not listed in the annual publication. This is particularly true of products that are sold and used for many purposse, such as salt and sugar. There is no hard and fixed rule on this.

Starter Formula Tested On Pigs at Minnesota

ST. PAUL—In recent feeding trials at the University of Minnesota, pigs on a good starter formula averaged between .7 and .77 lb. gain per day between 14 and 56 days of age. The average consumption of pig starter was 1.35 lb. per pound of pig.

Results of the work were reported by Dr. R. J. Meade, university swine nutritionist.

The starter was made up of (for each 100 lb.): 32 lb. ground corn; 32 lb. rolled oats; 10 lb. cane sugar; 8 lb. soybean oil meal; 3.5 lb. tankage; 3.5 lb. fish meal, and 10 lb. dried skim milk. It also contained .4 lb. steamed bonemeal, .5 lb. high-zinc trace element salt and .1 lb. vitamin supplement.

Whether the pigs received antibiotics or arsanilic acid made no difference in these particular tests. Nor did the additives have any important effect on the amount of starter the pigs ate for each pound of gain, according to Dr. Meade.

Pigs will usually start eating starter between 2 and 3 weeks of age. They should continue getting it until they are 8-9 weeks old, Dr. Meade said.

"Try to put at least 40 lb. into each pig by weaning age," the researcher advised. "It's much easier to get 40-45 lb. pigs off to a good start in the growing-finishing period than it is for those weighing 25-30 lb."

New Pellet Mill

FT. JONES, CAL.—A new pellet feed mill, known as the Scott Valley Pellet Mills, Inc., is now in operation on the Orrin Heinke ranch near Ft. Jones. Owners of the company include Mr. Heinke, Robert Eiler of Gazelle, and Carl McConnell of Etna. Manager of the mill is Edward F. Kellog, a graduate of the animal husbandry department of the University of California.

Pigs that fight their way to the feeders for breakfast are complimenting your feed

FEED WITH SUCRO FLAVOR* SENDS BABY PIGS INTO A SQUEALING SCRAMBLE TO EAT MORE—GAIN MORE

Little pigs have rotten manners when feed with SUCRO FLAVOR is in the feeders to tempt their taste zone. The saliva stimulating aroma and taste of SUCRO FLAVORed feeds produces knife-sharp appetites . . . pigs maintain proper and more profitable daily feed intake.

An independently conducted 4 week feeding trial on 4 lots of 3-week-old pigs showed that pigs gained 31% more on a SUCRO FLAVORed ration than on same ration unflavored. SUCRO FLAVOR saved $18 per ton replacing sugar. Pigs on the SUCRO-FLAVORed ration made higher daily gains . . . feed efficiency improved.

SUCRO FLAVOR (Patents Pending) masks variations of natural feed ingredients, eliminates unpleasant tastes and feed off-odors, helps guard important nutrients, keeps feed fresh and sweet. No objectionable aftertaste common with ordinary saccharin. Does not tire appetite like common sugar.

As little as ½ pound per ton produces money-saving feeding performance in creep, starter, wormer, medicated, high fat, mineral and other specialty feeds. Send for all the facts now.

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Nearly a Half Century of Service to the Feed Industry

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Pratt Names Texas Sales Representative

JUNCTION CITY, KY. — James T. Sammons has been appointed sales representative in Texas for Pratt Laboratories, Inc., Junction City, according to L. Wayne Cooper, general manager of the company.

Mr. Sammons will represent both the feed additive and animal remedy line of Pratt Laboratories. He will sell products from these lines to dealers and distributors throughout the state.

DEALERS TOUR PLANT

WATERLOO, IOWA—An estimated 200 feed and fertilizer dealers from Iowa, northern Illinois and southern Minnesota were guests of the Rath Packing Co. here recently for an inspection of the new equipment at the Rath feed and fertilizer plant. The visitors were also taken on a tour of the packing plant.

Some men work hard and save their money so their sons won't have the problems that made men of their fathers.

◆ ◆ ◆

Father to small son: "Never mind how I first met your mother—just don't go around whistling!"

◆ ◆ ◆

The scientist who doesn't have his head in the clouds these days is working on the wrong project.

◆ ◆ ◆

What we need is a mirror with a little more consideration for middle-age.

◆ ◆ ◆

"He's out to lunch now," the secretary informed the phone caller, "but he won't be long; nobody took him."

◆ ◆ ◆

Dora: I don't think that story we heard about Flora is so bad.

Cora: Give it time, dear, give it time.

◆ ◆ ◆

People will believe anything if you whisper it.

◆ ◆ ◆

Stopping at a wayside service station in Arizona, the lady motorist inquired: "Do you have a rest room?"

"Nope," returned the attendant. "When any of us gets tired, we just sits on one of those oil drums."

◆ ◆ ◆

"This is the very last word, madam," the salesman assured the woman shopper as he held up a royal blue Italian silk smoking-jacket. "Just the thing for the man-about-town."

"It certainly is," the lady agreed. "But what do you have for the mouse-around-the-house?"

◆ ◆ ◆

A little boy was busily practicing the piano when a salesman came to the door.

"Is your mother at home," asked the salesman.

"What do you think?" replied the boy.

DYNAFAC

makes the difference...

in your feed sales, too!

Each day, more and more feeders are demanding DYNAFAC PREMIX in their feeds. They want every bit of advantage that modern agricultural science can offer—not just *some* of it!

Regularity of dynafac performance is practically unique. The word is spreading . . . feeder to feeder; success stories are appearing continuously in the farm press and radio; in college reports from all parts of the nation — DYNAFAC PREMIX makes a good feed better!

Feeders have discovered that DYNAFAC PREMIX helps produce beef at new record lows in cost/100 lbs. of gain. They've seen living proof in their own feedlots that DYNAFAC PREMIX gives them better protection, too, against Bloat and Founder. The *new* DYNAFAC PREMIX label lists *results you can expect to get* with dynafac:

SWINE:

1. For promoting growth and feed conversion.
2. For the control of scours of bacterial origin.

CATTLE AND CALVES:

1. For promoting growth, feed conversion, bloom, and on full feed earlier.
2. As an aid in minimizing the occurrence of feed lot bloat due to high consumption of concentrate.
3. As an aid in minimizing the occurrence of feed lot founder due to high consumption of concentrate.

LAMBS:

1. For promoting growth, feed conversion and on full feed earlier.

So, improve your sales position by giving your customers what they want . . . the leading, most talked about feed additive for 1959 . . . DYNAFAC PREMIX!

ARMOUR AND COMPANY, CHICAGO, ILLINOIS

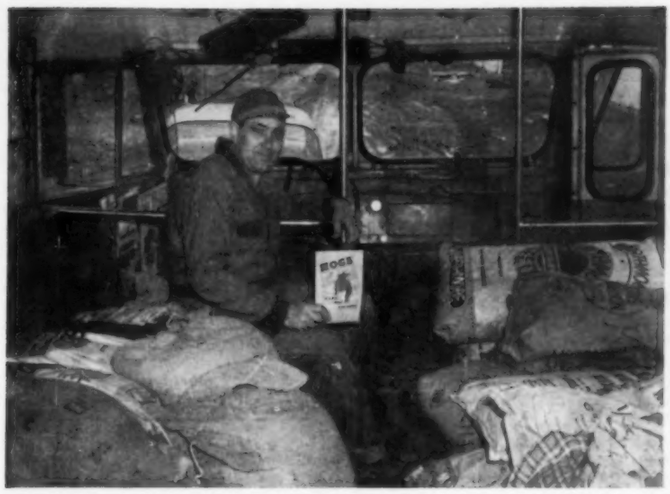
Dynafac Premix is distributed nationally for Armour by the Chemical Department, McKesson & Robbins, Inc.

Have you heard the latest?

...She worked overtime *again* last night at milking time. Must be that Silage with SILO-JOY® forage flavor preservative that she's eating.

FLAVOR CORPORATION OF AMERICA

3037 North Clark Street • Chicago 14, Illinois



FEED STORE ON WHEELS — Carl S. Moyer, Bellevue, Ohio, dealer for Wirthmore Feeds, Inc., is shown here at the wheel of his "feed store on wheels," a converted school bus. Complete with racks of literature and a line of Wirthmore poultry, dairy and stock feeds, the bus is one of three pieces of mobile equipment Mr. Moyer uses in the area. He claims he can build tonnage faster, offer better service and delivery and keep overhead lower by putting everything on wheels.

New Urea Plant In Canada Planned

TRAIL, B.C.—The immediate construction of a $5 million urea plant at Calgary, Alberta, has been announced by the Consolidated Mining & Smelting Company of Canada, Ltd.

In addition to various fertilizer products that will be manufactured, urea will be produced in forms suitable for animal feed supplements and industrial uses.

The new facilities will be operated in conjunction with the company's large ammonia and chemical fertilizer plants in Calgary, and will have an annual capacity in excess of 36,000 tons. It is the first plant of its kind in western Canada, and will be in full production by mid-1960.

Sales Representative

BALTIMORE—The appointment of Thomas Conley as sales representative for Sherwood Feed Mills, Inc., Baltimore, in the northern area of the Eastern Shore of Maryland and Delaware, has been announced by Sherwood Dickinson, president of the milling firm. Mr. Conley was manager of the Centreville (Md.) Milling Co. for a number of years. He has wide experience in the feed business, the announcement said.

IDEAL HEAVY DUTY 7½ Bu. CREEP FEEDER

Heavy duty construction throughout. Round design to accommodate 75 or more pigs with ten feeding sections. Spun one-piece feed trough. Spun one-piece cover for extra strength that won't get out of shape. Corrugated sidewalls for extra strength. Adjustable feed flow, and four agitators to assure feed at all times. Shipped K. D., but only takes a few minutes to assemble. Approximate shipping weight, 135 lbs.

SPECIFICATIONS

30½" Diameter Hopper—Height to top of hopper 35"—48" x 48" platform —12" platform to canopy—4 agitators—10 feeding sections.

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CREATIVE PROCESSORS OF FARM PRODUCTS

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Processors of DRIED FISH SOLUBLE PRODUCTS
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DAY not only provides high density (so called "fluidizing") systems and low density conveying systems but also can supply all types of accessory equipment including the finest bulk storage tanks. This undivided responsibility is your guarantee of efficient, proven, dependable equipment that's right for your plant!

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Horizontal Bulk Storage Tanks

Photo (below) shows DAY air-line pneumatic system which combines product drying and cooling with conveying. This system has been in successful operation for over 6 years.

Because no one type of conveying system fits all jobs it will pay you to study DAY BULLETIN M-588. It tells how to improve plant efficiency 6 ways and make substantial savings 9 ways with modern DAY *air-line* conveying systems. Write toDAY for free copy — BULLETIN M-588.

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GRANITE GRIT

The demand for Sparkling Ri-Stone Granite Grit is growing by leaps and bounds. Sales are more than double that of last year. Poultry Raisers find Ri-Stone's harder, sharper grinding edges enable them to get faster growth and more and larger eggs at lower costs. Every month more raisers are learning about Ri-Stone through its regular advertising in poultry publications reaching approximately a million operators per month.

Yes, Ri-Stone means added profits to both feed dealers and poultry raisers. Your inquiry is invited. Write for copy of Poultry Grit Facts.

Get Ri-Stone in the economical 80 lb. bags. A size for all ages. Fine, Medium, Coarse and Turkey sizes.

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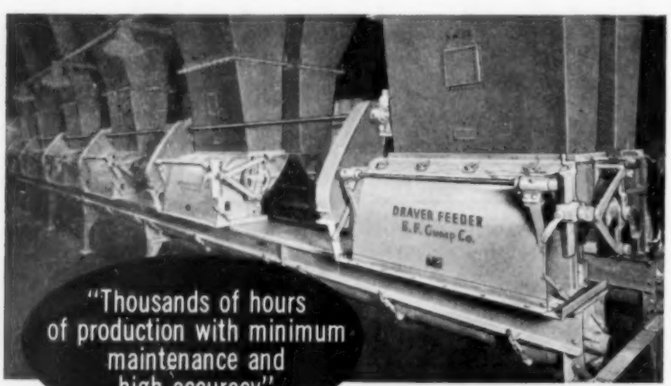

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A typical report from a Draver user says:

"Our company has been a user of Draver Feeders since 1927. *We have subjected these feeders to the most rigorous conditions, receiving many thousands of hours of production with a minimum of maintenance and a high degree of accuracy."*

For many years—and in thousands of mills like this one—Draver Feeders have set the standards for accuracy, low cost operation and durability under hard, continuous service. And, recent developments in feeder models and controls make Draver-Master Continuous Mixing Systems the accurate, economical, dependable way to produce consistently uniform blends of flour and feeds under today's more critical and complicated formula requirements. Let Gump engineers specify a Draver-Master continuous or automatic batch system that will bring Draver advantages to *your* mixing operations.

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Ag Careers Theme of Talk For Use Before Youth Groups

EDITOR'S NOTE: Presented here is a suggested talk which could easily serve as a guide to feed men and others in interesting students in agriculture. The information could also be used as background in talking informally to young people who are about to choose a career. The talk was prepared by Chas. Pfizer & Co. as part of its Ag Careers Program to help focus community attention on career opportunities in agriculture.

Many of you are about to begin four of the best years of your life—your college years. You'll seldom have more fun or meet such interesting people, or have a chance to work harder. But, it's not really as bad as it sounds. At this stage of a budding college career, most students are faced with two major problems: What school to attend; and what course to study.

I want to give you some reasons for attending an agricultural college to prepare for a career in agriculture.

Agriculture has little or no glamour for those of us befogged by the cartoonist's stereotype of a farmer, as a bumpkin with a straw in his mouth and little else in his head. This is an age of glamourous professions—space scientists, Madison Avenue executives and business tycoons. Today, the modern farmer, too, is a professional man. He's more businessman and scientist than anything else. In his highly competitive business, he needs a knowledge of cost accounting, economics, marketing, law and entomology—to say nothing of the areas of production, nutrition and health with crops and livestock. You can become a successful farmer with a limited education, but you can improve your chances with college training in agriculture.

But these days, the man who works directly on the farm is only a part of the agricultural scene. Agriculture is the nation's largest industry. It employs nearly 40% of America's entire working force although only about 12% of Americans live and work on farms.

The others are engaged in some of the 500 distinct occupations that are part of agriculture, occupations covering nearly every phase and field of work.

Career Possibilities

Do you want to be a scientist? An engineer? A big-time salesman? A newspaperman? A financier? A lawyer? A management consultant? All of these—and they only scratch the surface of career possibilities—are available in agriculture.

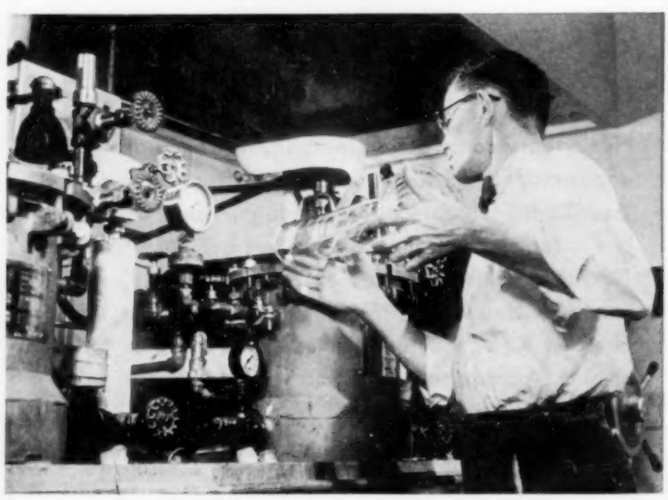
To illustrate, here are samples of a few careers to show you what excellent opportunities are available to the young man or woman who enters agriculture in this Agri-Dynamic Age.

Most of us are familiar with the results of recent scientific research in agriculture. Scientists have discovered how to make cows produce more milk, make hens lay more eggs and beef cattle grow faster on less feed. Such research has enabled farmers to increase crop yields, resulting in greater production from a fewer number of acres. Many new varieties and strains of crops have been discovered. Beyond such advances in crops and livestock, agricultural scientists have given us such bonuses as frozen fruit juice concentrates, a blood-plasma substitute, aerosol bombs and dehydrated foods.

If you want to be an engineer, there are opportunities in agriculture. Farmers depend upon a vast and complicated industrial system for most of their supplies and equipment. These industries need well-trained people who know agriculture. For instance, the farm equipment industry can use 2,000 additional men a year for the next few years; the farm building industry can use 1,500 a year.

Salesmen, like farmers, have "gone modern." They aren't drummers any more. They expect to, and do, make excellent salaries. Many of the products they sell, such as antibiotics, hormones, vitamins, and veterinary medicines, are complex technical materials. They must know the product and its scientific application. They must know how it will serve the needs of their customers. They must be able to explain its value in language the customer can understand.

Agricultural journalism is a fascinating field. Most journalists will tell you that young men and women are needed in their field. Few people possess professional training in both agriculture and journalism. Yet many opportunities are available in all facets of communications—radio, television, magazines, newspapers and advertising. Recently, one land-grant college reported on a survey of all graduates in agriculture during the years 1932 to 1952. The survey revealed agricultural journalism graduates had the highest average salaries



SCIENTIFIC RESEARCHER—This man is scientifically analyzing the chemical structure of corn. He may not spend much time on the farm but he is an important part of the American agricultural scene. Scores of other specialists can be seen at their jobs in the new film "Dynamic Careers Through Agriculture," which can be obtained on a free-loan basis from public relations department, Chas. Pfizer & Co., Inc., 800 2nd Ave., New York 17, N.Y.

in all of the 13 major fields of agriculture surveyed by the college.

Interested in finance? Today banks and other credit agencies, together with insurance companies and more than 12,000 farm cooperatives, play a major role in agriculture. Banks expect to employ 4,000 to 6,000 agricultural college graduates to serve as farm bank agents during the next decade. There are many places also for agricultural economists in cooperatives and industrial farms.

Government service and private professional services in agriculture offer unusual opportunities for young men and women with an agricultural college education. The largest number of jobs in this field are found in the U.S. Department of Agriculture, although other federal departments employ many agriculturally trained men and women. And, of course, every state has its own department of agriculture.

City, county and regional planning opens still another attractive field. This involves work in parks, recreation and housing developments, warehousing and marketing, transportation, and land use.

In the field of agricultural education, the need for able and alert teachers is as great as in any other educational area. Excellent positions are available in many of our nation's high schools for qualified agricultural teachers.

These schools in rural and urban areas are just as modern and many times better equipped than those located in large cities and metropolitan areas.

The college teacher can choose from a wide selection of specialized areas in agriculture. His job will require him to live and work within the boundaries of a college campus. If you would like to serve the needs of farmers and their families you can by joining one of the world's unique teaching groups—the agricultural extension service. These home agents, county agents, and other specialists work directly with farmers, farm families and farm leaders. The field of agricultural research in our land-grant college system is a fertile area for technically trained men and women who are endowed with the scientist's curiosity. Agricultural education is a rich and varied field—full of opportunity.

The few careers I have just mentioned are only a random sampling of the interesting, rewarding and dynamic careers open to trained men and women in agriculture.

One of the best places to get an education in agriculture is at land-grant or other agricultural colleges. The land-grant college in our state, like those in the other states, is fully equipped and prepared to train young people for agricultural professions. You need not make up your mind immediately about what branch of agriculture you want to major in, for most colleges offer general educational courses during the first two years. These basic courses will give you a background in a wide variety of subjects.

Many of you now in high school have inherited an inborn sense of agriculture through generations of your family who have been farmers or were engaged in other agricultural activities. Why not utilize this sixth sense about agriculture when choosing your career, whether it be as an accountant, a lawyer, or even a nuclear or space scientist? All of these professions are a vital part of agriculture. The man or woman with an agricultural heritage, trained in his profession, has a strong competitive advantage in his field.

Such an advantage was underlined by the survey among farm journalists. Their heritage gave them something —a sense of agriculture—lacking in other reporters. This competitive advantage paid off. The same applies to many other fields.

The future of agriculture is rich and bright. No matter what you want to be there is a place for you in this field.

BIG BABE Pre-starter Milk Replacer

15% FAT

28% PROTEIN

ASSOCIATED FEED PRODUCTS, INC.
1220 FLOUR EXCHANGE BUILDING
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ADVERTISEMENT ADVERTISEMENT

Weak Vaccines May Be Causing Newcastle Vaccination Breaks

University Studies Reveal Low Protection Levels Conferred by Water Vaccines Using the B1 Strain

Tests Give Top Rating to LaSota Strain of Vaccine Virus Used in VIPOL 717!

Scientific studies conducted by poultry pathologists at a leading university have added new weight to the belief that when it comes to water vaccination—the most effective mass method of immunizing flocks against Newcastle Disease—the B1 Strain is just not providing the level of protection that today's flocks need.

This fact becomes of paramount importance in the face of the widespread and often virulent outbreaks of Newcastle Disease now being reported in flocks vaccinated with the B1 Strain. These scientists also found that vaccines using the LaSota Strain (VIPOL 717) developed an immunity that persisted through the laying year.

Greater Immunizing Power

The pathologists reported, in an article prepared for and published in an internationally-known scientific journal*, that in the majority of laboratory trials, LaSota Newcastle Disease virus induced a significantly higher serologic immune response than the B1 Strain and it did not incite nervous signs generally associated with virulent field strains.

These findings on the immunizing power of vaccines have real significance for the poultryman — whether flock owner, broiler grower or commercial egg producer—when we understand that every water Newcastle Disease vaccine on the market today *with the exception of VIPOL 717* is produced from the B1 Strain. *Only VIPOL 717 utilizes the LaSota Strain!*

LaSota Strain Steps Up Immunity

The researchers further reported that replacement flocks vaccinated with the LaSota Strain while carrying residual immunity from early primary vaccination with the B1 Strain showed an excellent anamnestic rise in antibody titre without manifesting obvious clinical respiratory signs.

Moreover, the pathologists reported this immunity was induced with LaSota Newcastle Disease virus (VIPOL 717) when given in the drinking water at a titre that is feasible from a practical and commercial standpoint. The persistence of this immunity during the laying year, they continued, was demonstrated under controlled conditions where evidence of adventitious Newcastle disease virus infection was lacking in unvaccinated contact controls from initial vaccination until termination of the trial (52 weeks).

Hi Tests Reveal High Protection

The experiments indicated that chickens vaccinated with the LaSota Strain Newcastle Disease virus (VIPOL 717) administered through the drinking water gave a substantially higher hemagglutination inhibition (HI) antibody response than the B1 Strain.

The initial laboratory test showed an HI titre five times greater for the LaSota (VIPOL) Strain than for the B1 Strain. A second trial verified the 5-to-1 superiority in titre rating of the LaSota Strain over the B1 Strain.

It is immediately obvious how important these significantly higher protective levels given by the LaSota Strain (VIPOL 717) are to the commercial poultryman.

VIPOL 717 Retains Full Potency

VIPOL 717 retains its power to immunize for periods as long as 24 hours and more after it has been added to poultry drinking water. Because of the original high titre of the virus in the vaccine itself, it can stand dilutions in the drinking water well beyond recommended levels.

This strain has an unlimited infecting potential that continues through the vaccination reaction period and insures the immunity of a maximum number of susceptible birds. Revaccinations on young chicks with VIPOL 717 are reduced to the minimum and are necessary only if the birds are carrying parental immunity at the time the vaccine is first given.

On the other hand, revaccinations with the B1 Strain are necessary because this strain of virus lacks infecting potential among those susceptible birds that do not receive a dose of vaccine at the time of vaccination.

Challenge to the Industry

For over two years, Vineland Poultry Laboratories, who produce the VIPOL 717 Strain of vaccines, have been challenging the industry with this statement: "The VIPOL 717 Strain of Newcastle Disease Vaccine produces a higher titre and a more durable immunity than the B1 Strain." This challenge was carried in nation-wide advertisements for many months. To date, not a single contradiction has been received from any vaccine manufacturer, pathologist, breeder, hatcheryman or grower.

Vaccination through drinking water is the most efficient, economical and effective mass method of immunizing poultry against Newcastle Disease — providing VIPOL 717 (LaSota Strain) is used.

Remember that the LaSota Strain is used by Vineland Poultry Laboratories exclusively as the basis for its VIPOL 717 Vaccines. See your nearest dealer or Vineland state distributor, or get in touch with Vineland Poultry Laboratories, Vineland, N.J., or 4068 Broadway Place, Los Angeles 37, Calif., for either the product desired or more detailed information.

*Name of the publication and the date of issue in which the article appeared will be supplied upon request.

Engineers and Manufacturers since 1872
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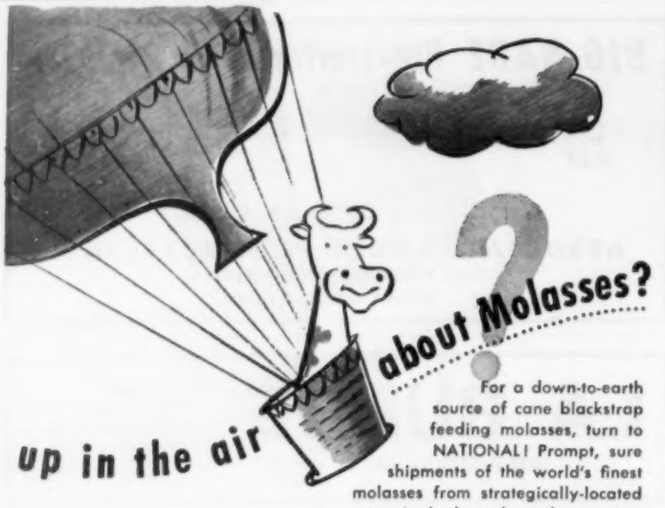
culture," which can be obtained on a free-loan basis from public relations department, Chas. Pfizer & Co., Inc., 800 2nd Ave., New York 17, N.Y.



up in the air ? about Molasses?

For a down-to-earth source of cane blackstrap feeding molasses, turn to NATIONAL! Prompt, sure shipments of the world's finest molasses from strategically-located terminals throughout the country. Write — phone — or wire for quotations!

NATIONAL MOLASSES COMPANY

Executive Offices: ORELAND, PA.

Phone: Livingston 8-5900 (Philadelphia)

UNIVERSAL LANGUAGE—Dr. J. R. Smyth, head of the poultry science department at the University of Maine and representative for the Soybean Council of America at an international agricultural trade fair in Verona, Italy, shows Italian farmers what balanced feeding will do for them in the way of profit. He is pointing at a large photo mural which is part of the U.S. Department of Agriculture's mobile exhibit now on tour of European trade fairs. Dr. Smyth discussed poultry feeding problems with the Italian farmers and told them the advantage of using high-quality U.S. feedstuffs in the preparation of improved balanced feed rations.

THE Marion MIXING and BLENDING ACTION AN EXCLUSIVE DESIGN!

the Best Answer to any mixing problem!

MIXING:
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BLENDING:
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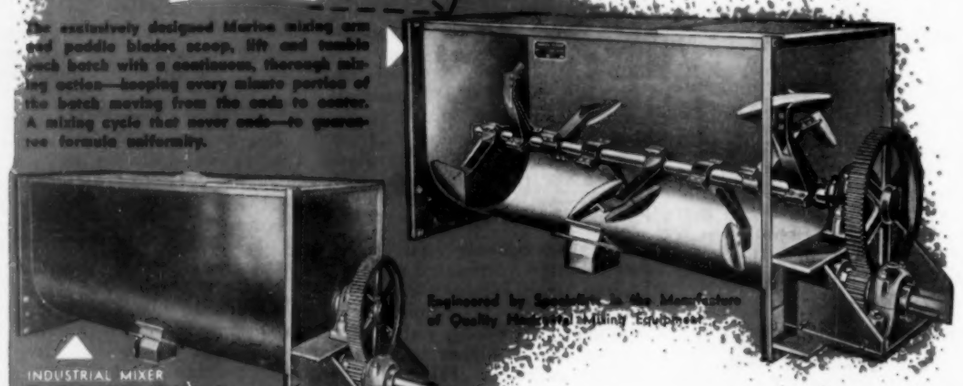
- ANIMAL FATS
- FISH SOLUBLES
- OTHER LIQUID ADDITIVES

You need only one mixer in your plant or mill to satisfy all your mixing and blending requirements, the MARION MIXER. The Marion Mixer handles the mixing of dry feeds, and blending of molasses, fish solubles, animal fats and other liquid additives with the same ease and dependability.

The exclusively designed Marion mixing arm and paddle blades scoop, lift and tumble each batch with a continuous, thorough mixing action—keeping every minute portion of the batch moving from the ends to center. A mixing cycle that never ends—to guarantee formula uniformity.



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The Marion Industrial Mixer is engineered to precision mix the toughest mixes, and recommended for heavy and abrasive materials.

STANDARD MIXER
A rugged, dependable mixer that will provide absolute mix uniformity for years to come.

TWIN-MARION MIXER
Designed for the mixing of feed mills requiring very high production mixing capacities. Ideal for large mixing operations where uniformity is important.

The MARION MIXER has proved to be one of the Most Accurate and Versatile mixers in the industry. The exclusive Marion mixing and blending action is the key to its accuracy because of its continuous cross-blending and other mixing action which insures that even the smallest amounts of materials can be thoroughly and completely blended into your product. A constant uniform mix is guaranteed batch after batch, bag after bag.

Send TODAY!

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687 11th Street, Marion, Iowa

I am interested in the MARION MIXERS checked below:

☐ MOLASSES MIXER; CAPACITY ☐ 1000# ☐ 2000# ☐ 3000# ☐ 4000#

☐ DRY MIXER CAPACITY ☐ 300# ☐ 500# ☐ 1000# ☐ 2000# ☐ 3000# ☐ 4000# ☐ 6000#

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ADDRESS _____

CITY _____ STATE _____

USDA's International Fair Exhibit Seeks New European Markets

VERONA, ITALY—Balanced feeding of livestock and poultry and the availability of high quality feed grains and feed concentrates from the U.S. are stressed in the U.S. Department of Agriculture's new mobile exhibit which recently opened a European tour.

Its first appearance was at Verona International Agricultural Trade Fair held here March 8-16.

The traveling exhibit, sponsored in cooperation with the Soybean Council of America and the Grain Producers Assn., was the department's 32nd market promotion display of U.S. farm products at international trade fairs since the program began in 1955.

Thousands of Italian farmers and trade people observed how, through improved balanced feeding of livestock and poultry, they could produce "more meat, milk and eggs at less cost and in less time."

The Italian government is encouraging a shift from wheat to livestock and poultry production. As this plan develops, Italy will need to import an increasing amount of feedstuffs to meet its requirements.

In the U.S. exhibit, strong emphasis was placed on the use of soybean meal and grain sorghums, and of the availability of these high-quality feedstuffs from the U.S. Italy is one of the top importers of U.S. soybean meal. In 1958, about 60,000 tons went to Italy. This was more than half of the total exports of U.S. soybean meal to European countries.

Headlining the exhibit was "The Champ," on loan to the department from Ralston Purina Co. The Champ, a walk-through model steer symbolizing America's dynamic livestock industry, maintained his reputation as a crowd catcher.

EQUIPMENT INSTALLED

NEWBERG, ORE.—New bins and hoppers have been built as a part of a remodeling project just completed at Chehalem Valley Mills. Bulk delivery trucks have been purchased to take care of the expanding capacity.

Fleischmann's F·I·D·Y
IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

vaccinated with the LaSota Strain. This strain has an unlimited supplied upon request.

Donald W. Acott

ARMOUR POST—Donald W. Acott, a Colorado agricultural extension specialist, has been named regional technical representative for the feed additives department of Armour & Co., Chicago. Covering western and southwestern states, Mr. Acott will offer consultation to feed mills and commercial feedlot operators on feed additives. He will be stationed at Fort Collins, Colo. For two years before joining Armour Mr. Acott conducted livestock marketing activities for Colorado State University. Before that he served four years as a county extension director at Julesburg, Colo. He was graduated in 1942 from the College of Agriculture, Colorado State University.

Dakota Farmers Report On Stilbestrol Tests

FARGO, N.D.—North Dakota livestock producers, cooperating in a semi-controlled experiment here, report that stilbestrol implants on pastured cattle are proving worthwhile.

George Strum, extension livestock specialist at North Dakota Agricultural College, reported these results from a group of farmers cooperating in the experiment during the past year:

Of 12 cattle on pasture, six received implants and six did not. Implanted cattle gained 1.86 lb. daily, and the others gained 1.55 lb.

A group on native pasture showed 1.21 lb. per day for the implants and 1.08 for the controls. Another group on native pasture showed 1.32 lb. daily for the implants and 1.07 for the controls.

The one negative report showed a daily gain of 1.25 lb. for the implanted cattle and 1.31 lb. for those without.

Mr. Strum suggested one 12-mg. implant as a general recommendation. He said two 12-mg. implants can give maximum gains, but the higher dosage may be undesirable for side effects such as high tail heads and depressed loins.

"The cost of a stilbestrol pellet is about 9¢, and it takes only a few days on pasture for a steer to pay this back, even if the animal's extra gain is no more than 0.2 lb. per day," he said.

Machinery Installations

CHICAGO—Prater Pulverizer Co., Chicago, reports that 34 installations of Prater equipment were made recently in 13 states. The states, and number of installation locations, are: Ohio (2), Missouri (3), Michigan (5), Illinois (8), Iowa (5), Oregon (2), Wisconsin (2), Indiana (2), and one each in North Dakota, Minnesota, Kansas, Nebraska and Pennsylvania. The machinery includes grinding, mixing and other equipment.

Hetrogen K is available as an easy to use premix and as a free flowing concentrate. Recommended for medication of drinking water. For complete information, write or call collect:

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111 E. Hawthorne Avenue Valley Stream, Long Island, N.Y. LOcust 1-8225

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OVERALL **OUTLOOK** on industry developments comes to you weekly . . . while it's still news in FEEDSTUFFS

Should your formula include TSB*

We should like to suggest another ingredient, TSB. A pinch of TSB may easily turn out to be the factor that makes your feed more profitable.

What is TSB?

It stands for Technical Service Bureau . . . *Nopco's* Technical Service Bureau which supervises the compatibility and method of manufacturing

NOPCO-PAK®

What is NOPCO-PAK?

Nopco-Pak is a vitamin supplement blended for you with Nopco know-how.

It is formulated to meet *your* specifications.

Nopco Paks contain Nopco's unique Micratized® Vitamins A and D, which make possible delivery of full vitamin potency without costly overages.

They are packed in batch-sized bags to give you the utmost in ease of handling and space conservation in your warehouse.

Nopco's Technical Service Bureau staffed with trained nutritionists and chemists qualified to serve you. It has already developed a vast number of compatible formulas and is currently originating new ones and revising old ones at a rate of more than 1000 a year. This expert nutritional assistance is yours at no cost when you buy Nopco-Paks.

Send for the New Nopco Nutrition Chart

NOPCO

NOPCO CHEMICAL COMPANY

General Offices: 60 Park Place, Newark N.J.
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Basic producers of Micratized Vitamins A and D, niacin, calcium pantothenate, choline chloride, and other products

☆ Classified Ads ☆

Classified advertisements received by Tuesday each week will be inserted for the issue of the following Saturday. Rates: 15¢ per word; minimum charge $2.25. Situations wanted, 10¢ a word; $1.50 minimum. In figuring cost of your classified ad . . . each word, abbreviation, telephone exchange and number, set of initials, or group of figures counts as a word. To the number of words in your want ad itself add six (6) words for your name and address or name and address of your firm. This applies for both direct-reply ads and for blind ads containing a box number. If an ad is keyed, care of Feedstuffs, 20¢ per insertion additional charged for forwarding replies. Commercial advertising not accepted in classified advertising department. Display advertising accepted for insertion at minimum rate of $12.00 per column inch. No discount on ads ordered for more than one insertion.

All Want Ads cash with order.

MACHINERY FOR SALE

FEED MIXER, 1-TON CAPACITY, GUARanteed first-class throughout. 5 H.P. motor drive. Address Ad No. 3479, Feedstuffs, Minneapolis 40, Minn.

WHIRLAWAY AIRBLAST CAR LOADERS, cast iron pulleys, new and used feed and elevator equipment. Hagan Mill Machinery, P. O. Box 574, Jefferson City, Mo.

FOR SALE—HEIL DEHYDRATOR WITH or without feeder. Reasonable, Webster power shovel with motor. Address Ad No. 4700, Feedstuffs, Minneapolis 40, Minn.

ALFALFA MEAL COOLER (NEBRASKA) two-ton capacity. Will deliver 250-mile radius. Brummond's De-Hi Alfalfa Farms, Mayville, Wis.; Phone 454.

ONE 3-TON BLEND-ALL VERTICAL SINgle spiral mixer with molasses attachment, motor and starter. One year old. One No. 3UX Jay Bee Mill. Fishbaugh Construction Co., Box 6, Greenwich, Ohio.

DAFFIN MOBILE UNIT, TWO YEARS old. 100 H.P. Diesel power, 1956 Chevrolet. Full equipment in excellent condition. Early Elevators, Inc., Route 2, Waynesville, Ohio.

USED ROLLS FOR SALE — 2-PR. 9x30 full size for 2 high Allis stand. Six-pr. 9x24 and 6-pr. 9x30 Nordyke old style. All of these are good and some are full size rolls. Capital Corrugating Co., 1729 Swift Ave., North Kansas City 16, Mo.

FOR SALE—ENCLOSED MOTORS; RICHardson Scales; truck scales; hammermills; oat crimpers; horizontal and upright feed mixers; sewing machines; elevator legs; screw conveyors; molasses mixers and pellet mills. J. E. Hagan Mill Machinery, Box 574, Jefferson City, Mo.

OFFERED FOR SALE—9x30 N & M DOUble roller mills, reconditioned for corn cracking and oat crimping. Hammer mills, Prater Blue Streak completely rebuilt. Screw conveyors carried in stock 4" to 16" box and fitting. Design Mfg. & Equipment Co., 1025 N. 6th St., St. Louis 1, Mo.

FOR SALE—WENGER 1000 HI MOLASSES pellet mill complete with cooler, pump, mixer, feeder, revolving duster, fan and motors; 36" and 42" filter presses; filter cloth washing machine; Buffalo cookers, DeLaval centrifuges, Zenith and Davenport dewatering presses; York Ammonia compressors; Vogt oil chiller; scale tank complete with Toledo scale; Richardson scales; meal coolers; Roots-Connersville blower; Davis vertical mixer; horizontal mixers; O.K. bagging scale; Prater pulverizers; bucket elevator legs; pumps; motors. Contact Lee Atherton, Archer-Daniels-Midland Co., Minneapolis, Minn.

MACHINERY FOR SALE

PNEUMATIC "AIR-CONVEYOR" SYStems. Any size, positive blowers, blo-thru feeders, also used Sutorbilts, 50% off. Nolder Co., Box 14, Corona Del Mar, Cal.

FOR SALE — CHICK TRANSPORTING truck. 1958 A170 IHC. New 14-foot insulated body. Gas heaters thermostatically controlled. Duct work in walls, blower and ventilating fans, $5,550. Ryder Truck Rental, Inc., Hutchinson, Kansas.

FOR SALE—ONE 38 DUCT, DOUBLE OR dual Verti-flo feed and grain distributor. Can be separated to make two distributors, if needed. Used little. As good as new. Jerome Turkey Farms, Inc., 506 West Division Ave., Barron, Wis.; Phone: Lenox 7-3133.

SALE — ALUMINUM TANK, 4,000 GAL. Dewatering presses: Davenport No. 1A, No. 3A, Louisville 8-roll, 36". Three Louisville Rotary steam tube dryers 6'x 50', 6'x30', 6'x25'; screw conveyors, trough belt conveyor, bucket elevator, bins, etc. Perry, 1403 N. 6th Street, Philadelphia 22, Pa.

MACHINERY WANTED

ALL KINDS OF GOOD USED GRAIN processing machinery. E. H. Beer & Co., Inc., Baltimore 24, Md.

WILL BUY FOR CASH USED MOBILE mill or stationary "package" unit. Quote price and furnish complete details. A. T. Myren, Box 55, Springfield, Ill.

WANTED TO BUY — RICHARDSON scales, bag closing machines and other good mill, feed and elevator equipment. J. E. Hagan Mill Machinery, Jefferson City, Mo.

WANTED TO BUY GOOD USED SPROUT-Waldron, Jr., pellet mill with electrical equipment, Coolaire and sifter if available. Quote price and furnish complete details. Address Ad No. 4695, Feedstuffs, Minneapolis 40, Minn.

WANTED — HAMMERMILL, GOOD RUNning condition, minimum 75 H.P. Rotary Dryer, oil fired, 4'x50' minimum, good condition only. Rotex or Ro-Ball Sifter, 3'x8' minimum. Reply John S. Rozansky, 176 Louis Street, Sacaucus, N. J.

USED HAMMERMILLS, MIXERS, PELLET and roller mills—any excess equipment. Highest cash prices paid. Free listing for any old equipment with our buyers' exchange. Will sell on brokerage basis or cash. Write James Equipment Co., Box 460, Fort Dodge, Iowa.

HELP WANTED

ESTABLISHED FEED MANUFACTURER wants feed nutritionist with knowledge of formulation and related fields. No age limitations. Address Ad No. 4637, Feedstuffs, Minneapolis 40, Minn.

WANTED—PRODUCTION TRAINEE, college graduate, capable of advancing to production management position within three years. Position will require strong leadership ability. Trainee will be given thorough training in plant operations, and supervision. Not a desk job, moderate compensation to start, with most unusual opportunity. Address Operations Manager, Ad No. 4684, Feedstuffs, Minneapolis 40, Minn.

HELP WANTED

ASSISTANT SALES MANAGER MIDWESTern feed manufacturer. Salary open. Give qualifications. Address Ad No. 4683, Feedstuffs, Minneapolis 40, Minn.

EXCELLENT SIDE-LINE OR FULL TIME item for salesman selling to feed, grain, farm equipment dealers and farmers. Liberal commissions. Replies will be held confidential. Write Doane Agricultural Service, Inc., St. Louis 8, Mo.

GENERAL SALES MANAGER, EXPERIenced in sales and servicing dealers, good advancement possibilities in fast growing corporation, pleasant working conditions and excellent earnings. Illinois Liquid Feed Co., Princeton, Ill.

EXPERIENCED FEED SALESMAN WANTed for proven area central Illinois. We have a man retiring and need a replacement. The territory is well established and company well known. Earnings are excellent. Address Ad No. 4451, Feedstuffs, Minneapolis 40, Minn.

EXPERIENCED FEED SALESMAN WANTed — Old established feed manufacturer situated in the Northeast is interested in securing an experienced feed salesman to cover a portion of New England. Good opportunity for a man willing to work. Address Ad No. 4670, Feedstuffs, Minneapolis 40, Minn.

LEADING MINERAL MANUFACTURER desires general manager — Must have knowledge of mineral and feed business and executive and business ability. State experience, age and salary desired. Our people know about this ad. Address Ad No. 4702, Feedstuffs, Minneapolis 40, Minn.

DISTRICT SALES MANAGERS-SALESMEN —Manufacturer animal health products, antibiotic vitamin mineral supplements. Territories open Indiana, Illinois, Iowa, Wisconsin, Michigan, Pennsylvania, New York, other states. Expenses, salary, commission. Give details, experience, references. Address Ad No. 4510, Feedstuffs, Minneapolis 40, Minn.

GENERAL SALES MANAGER WANTED by national manufacturer of enzymes and enzyme-based products. Sales for first quarter this year equal entire last year. Several new products now under test. Applicants must stand thorough investigation but references will not be contacted without your permission. Send complete education background, job history, photo and salary requirements in first letter. You must be capable of taking full charge of sales and marketing, but technical knowledge not required. All replies held in strict confidence. Write Ad No. 4693, Feedstuffs, Minneapolis 40, Minn.

MISCELLANEOUS

FOR SALE—COMPLETE DEHYDRATING plant located in good hay area in Ohio. Two Heil driers, warehouse. Will finance to qualified party. Address Ad No. 4699, Feedstuffs, Minneapolis 40, Minn.

HELP WANTED

MATURE FEED SALESMEN—WE HAVE openings for state representatives in each of the following states: Illinois, Indiana, Ohio. We require unquestioned background, preferably with turkey and poultry experience, and a complete acquaintance with distributors, dealers and feeders in the desired territory. Our high calibered men are being paid from $8,000 to $12,000 or better yearly. To start we will pay a salary, expenses and bonus. Our product and our company are well established and highly regarded. Character, integrity, personality and industry, plus desire for personal advancement most important. If you meet the above qualifications and genuinely interested, write Ad No. 4650, Feedstuffs, Board of Trade Bldg., 141 West Jackson Blvd., Chicago 4, Ill. All replies will be kept strictly confidential.

SITUATIONS WANTED

FEED AND DISEASE SPECIALIST — Young,* excellent background, unlimited ambition. Address Ad No. 4690, Feedstuffs, Minneapolis 40, Minn.

WE NEED CAPITAL OR OPPORTUNITY that will lead to ownership of agricultural supply business. Two university graduates. Age 34, successful in sales, management of 15,000 ton feed plant. Invest in our future. Address Ad No. 4658, Feedstuffs, Minneapolis 40, Minn.

MAN WITH BROAD SALES, ALL PHASES milling equipment, vitamin supplements and formulation. Twenty years' selling in Southwest, broad acquaintance. Prefer Texas, fringing states. Family man, mature, sound judgment, A-1 references, no objection to D & B report. Address Ad No. 4682, Feedstuffs, Minneapolis 40, Minn.

BUSINESS OPPORTUNITIES

FOR SALE—WELL ESTABLISHED FEED business, property, and equipment. Located in Colorado. $27,500 plus inventory. Address Ad No. 4688, Feedstuffs, Minneapolis 40, Minn.

FLORIDA—GARDEN, SEED AND FEED supplies. Sell business, fixtures, equipment, $15,000. Good lease, parking, large warehouse. Owner moving North. P. O. Box 781, Holly Hill, Fla.

FOR SALE—FEED MILL AND HATCHery, completely equipped and operating, located in southern California, in area ripe for expansion. Growing egg production, broiler and turkey raising area. Address Ad No. 4680, Feedstuffs, Minneapolis 40, Minn.

GRAIN ELEVATOR, FEED STORE, CUStom grinding and mixing setup. Profitable operation averaging 75 tons of feed per month in good livestock area of central Iowa. Good reason for selling at net depreciated book value. Address Ad No. 4647, Feedstuffs, Board of Trade Bldg., 141 West Jackson Blvd., Chicago 4, Ill.

Central Soya Names Ass't Superintendent

FT. WAYNE, IND. — The promotion of Glen C. Dickerson to the position of assistant general elevator superintendent was announced recently by Central Soya Co., Inc., Ft. Wayne.

Glen C. Dickerson

Previously elevator superintendent of the company's Decatur, Ind., plant, Mr. Dickerson will assist in the coordination of elevator and grain merchandising activities on a company-wide basis, the announcement said.

Mr. Dickerson joined Central Soya in 1940. He was named manager of the Decatur order department in 1945, and in 1951 he was promoted to the position of assistant elevator superintendent at Decatur. In 1954 he became elevator superintendent at the company's new plant at Chattanooga, Tenn., and last year, he returned to the Decatur plant as elevator superintendent.

He will maintain an office at the Decatur plant and will continue to make his home in that city.

SHOWS 9% INCREASE

CLEAR LAKE, IOWA—The Farmers Cooperative Co. of Clear Lake reported $1,022 066 worth of business for the past year at its recent annual meeting. This is an increase of 9% over the previous year.

FOR SALE

WE ARE PARTLY DISMANTLING ONE SOYA PLANT, AND HAVE THE FOLLOWING FOR QUICK SALE

3—French Screw Presses with 5-section 72-inch Cookers. 11-inch Extension Cages, with 75 H.P. motors operated less than six months.
2—French Screw Presses, 5-section 72-inch Cookers, 4-section Press with 50 H.P. motors.
1—Sperry 50-plate 36x36-inch plates, hydraulic closed; Type No. 31, used six months.
1—Three-high 16x48 inches roller mill.
1—Four-high 12x48 inches roller mill.
1—Anderson Rotary Steam Dryer; like new.
1—Anderson Meal Cooler, stainless steel, rebuilt, like new.
1—French Oil Pump and Screen.

We have many other articles, too many to list. All the above articles are in a Soya Bean Plant and all the Screw Presses were rebuilt less than six months before the plant was shut down.

Call Riley W. Lewis
CONSUMERS SOYBEAN MILLS, INC.
Phone LAkeville 6-5671
Lakeville, Minnesota
Or after hours: Phone FEderal 2-8301
Minneapolis, Minnesota

WANTED

Outside salesman for Chicks and Feed, established 29 years, state - wide territory. Franchised chicks. Good salary and commission. Give experience and reference in first letter.

Meyer Bros. Hatcheries
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If you need a good used moisture tester or have one to sell, get in touch with us. All of our used testers have been gone over very carefully by factory trained experts. Burrows is the most complete source of all grain, feed and seed testing and handling equipment and supplies. Write for free catalog. Burrows Equipment Co., 1316-C Sherman Avenue, Evanston, Illinois.

PLANT LIQUIDATIONS

Let Ross, Inc., handle sale of your milling equipment and properties large or small anywhere. Largest machinery dealer in the U. S. on feed, flour, corn and processing equipment. No auctions, will sell or purchase, immediate personal appraisal, highest prices. Complete plants, many items needed now. Over 2,000 items in stock. If it's mill machinery
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Baltimore 24, Md. Machinery Division Dickens 2-6606

1,500 ft., 5-in. 16-gauge steel grain spouting, 20 ft. lengths (new)
9" and 12" steel screw conveyors, complete with drives
Fuller Pneumatic System, complete, capacity 1,500 bu. per hour
Richardson Automatic Portable Grain bagging scale
Richardson Automatic Portable Feed bagging scale
Richmond Gyro Whip Sifter—Series D
Sprout-Waldron double roller mills 9x24 and 9x30
Style C Collar oiling bearings—like new

CHECK FEEDSTUFFS WANT ADS!!

Basic producers of Micratized Vitamins A and D, niacin, calcium pantothenate, choline chloride, and other products

EXAMINE SITE FOR NEW WAREHOUSE—Blueprints for a new feed warehouse, bulk storage and truck loading facility for McMillen Feed Mills' plant at Marion, Ohio, are being examined on the building site by Max Spencer (center), plant manager, and R. R. Herold (left) and J. H. Walker, sales engineer and president, respectively, of the Fairfield Engineering Co., Marion. The 80 by 220-ft. structure, with adjacent bulk storage bins and truck-loading scale, will be connected to the present plant in the background by an overhead conveyor bridge.

McMillen Mills Plans New Storage Facility

FT. WAYNE, IND.—McMillen Feed Mills, feed division of Central Soya Co., Inc., Ft. Wayne, has announced plans for the construction of a modern warehouse, bulk storage and loading facility on property immediately west of the company's plant in Marion, Ohio.

The main facility will be an 80 by 220-ft. warehouse of steel and concrete block construction. Eighteen separate welded-steel bins will provide storage capacity for 280 tons of bulk feeds. A 50-ft., 50-ton truck scale will be positioned directly beneath the bins for the simultaneous gravity loading and weighing of bulk feed delivery trucks.

An overhead conveyor bridge, housing the necessary materials handling equipment, will link the new warehousing operation with the production facilities in the present plant. Special pains have been taken to assure a high degree of dust control when the new structure is completed and in operation, the announcement said.

General contractor for the project is the Fairfield Engineering Co., a Marion firm that specializes in both the design and manufacture of conveying and storage equipment. Construction is to begin immediately, and it is expected that the project will be completed in 3 to 4 months.

Pet Food Institute To Meet Sept. 9-10

CHICAGO—The second annual national convention of the Pet Food Institute is scheduled for Sept. 9-10 at the Drake Hotel, Chicago.

Founded in February, 1958, the Pet Food Institute represents approximately 60% of canned dog food, 85% of cat food, and 85% of the dry dog food industries.

New Elevator Built

WORTHAM, TEXAS— A new 1 million bu. elevator has been completed and will operate under the name of McLelland Grain Co. The builder is J. E. McLelland. Ft. Worth.

The structure cost $250,000, and receives its first storage shipment of 950,000 bu. the first of April. It is the largest of its type in central Texas.

FEED COMPANY SOLD

GRANTS PASS, ORE.—Bill Pruitt has purchased Pruitt's Feed & Seed Co. from his father. He plans to expand the store, and also plans to stock a variety of feed and fertilizer.

Alfalfa Pellets WANTED
Sun-cured or Dehydrated
Also Alfalfa Hay
Please quote delivered prices to
Garelick Bros. Farms, Inc.
Franklin, Mass.

HEADQUARTERS
MYVAMIX VITAMIN E SUPPLEMENT
HOLT PRODUCTS CO.
Box 840, Milwaukee 1, Wisconsin

WORTH CROWING ABOUT!
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HAVE YOU TRIED COB MEAL?
PAXCO DEHYDRATED CORN COB MEAL is different from all other ground corn cob products—quality is uniform; dehydration eliminates spoilage worries and cuts dry-basis cost; supply is reliable, and prices are stabilized, year 'round. Write today.
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P. O. Box 120 Phone 222 Paxton, Illinois

Bag Conveyor

Burrows Aluminum Bag Conveyor is easy to handle and lightweight, yet its faster belt speed delivers more bags per minute. Available with one undercarriage or two undercarriages, for use both in piling and horizontal loading. Four different lengths — 13, 15, 17 and 19 feet.
BURROWS
Burrows Equipment Co.
1316-C Sherman Ave., Evanston, Illinois

Fleischmann's F·I·D·Y
IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

Hoffman
for vitamins
Hoffman-Taff Inc.
SPRINGFIELD, MISSOURI

FEEDSTUFFS reprints

The following reprints of articles which have appeared in Feedstuffs may be obtained on order from Feedstuffs' Reader Service Department:

1. **Use of Linear Programming in Feed Manufacturing**—A series of seven articles—by Dr. R. F. Hutton, Pennsylvania State University **$1.00**
2. **Custom Feed Milling**—a series of five articles—by Al P. Nelson, Feedstuffs special writer **50c**
3. **Mobile Feed Milling**—a series of five articles—by Al P. Nelson **50c**
4. **Feed Industry Research**—by Dr. H. E. Bechtel, General Mills, Inc. **20c**
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18. **Ideas for Feeding Growing-Finishing Swine in Confinement**—by Dr. T. J. Cunha, University of Florida ... **20c**

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Are You Taking Advantage Of Publicity Opportunities?

The feed man and his employees make news. Here are some ways to gain full advantage from it.

By Paul Lockwood

Are you getting all the local publicity you need?

Is your name and your feed business mentioned in the local news every time you do something newsworthy?

Chances are good that most feed men would have to answer "no" to both of these questions. Most feed dealers do not realize how many opportunities for good local publicity they have during the year.

Here is a check list of newsworthy items that can give you and your feed business legitimate publicity:

Personal Publicity—Names make news. Your name, as one of the leading merchants in your community, is newsworthy. You and your family do things of interest to others that will also be good publicity for your business.

For example: Civic activities of your wife or other members of the family; news of births or marriages in the family; entertaining done in your home.

Employee Publicity—Your area of publicity opportunities is multiplied by the number of employees in your firm. All of the items of personal publicity which make news for you also make news when they are applied to your employees.

In addition to these are many newsworthy employee activities that can give your feed business valuable publicity. For instance: News releases on new employees; promotions; group entertainment; sales contests; training programs for employees, and recognition of employees for some outside activity.

Management Publicity—As you are one of the leading merchants in your community, people are interested in what makes your business "tick." You need not reveal trade secrets, but your management ability is news. Consider, for example, these ideas: New service for customers; installation of new business systems; adding new lines of feed or supplies; business expansion; new location, and recognition of your management ability in a company contest or other type of competition.

Industry Recognition — Newspaper editors are often amazed when they find out that a local businessman has received some sort of industry recognition. Their surprise is not at the recognition, but usually that it was generally unknown in the community and to him. Local publicity given to industry recognition will make the recognition valuable to you in your community.

Here are some examples of opportunities for local publicity on regional or national recognition: Articles about your business in your business paper; election to office in your trade association; convention attendance; speaking engagement; employee recognition, and committee membership.

Civic Activity—Newspapers, as a matter of policy, attempt to cover all civic events. A feed dealer who is active in civic affairs will thus automatically receive plenty of publicity. Here are some examples: Election to office in church, club or lodge; work for a local charity; floats in local parades; county fair exhibits; work for your local schools; work with youth organizations, and election or activity in a city office.

You make news more often than you realize. It will be of benefit to you and your business to let the world know about it.

COUNTER DISPLAY — Soon dealers will be given this point-of-sale counter display to help stimulate interest in Aureomycin soluble powder, which is being offered to feed and drug outlets by American Cyanamid Co., New York. Dealers who take advantage of this spring promotion will be able to offer to their trade a free one fourth pound jar of the powder to match each similar purchase, the company said. The product is being merchandised in twin packs, one jar which the farmers pay for, and the other free.

R. L. Cuff Given Award By Veterinary Group

ST. LOUIS—A Distinguished Service Award has been presented to Raymond Lee Cuff, Kansas City, for his outstanding contributions to the livestock industry of Missouri. The award was given by the Missouri Veterinary Medical Assn. at the group's recent convention in St. Louis.

Mr. Cuff is regional manager of Livestock Conservation, Inc., southwestern region. He was nominated for the award by the Kansas City District Veterinary Assn.

The award recipient is an animal husbandry graduate of the University of Wisconsin. In the citation it was stated that Mr. Cuff's work on tuberculosis, brucellosis, prevention of shipping fever and losses, and his field studies with insecticides have contributed millions of profit dollars to the cattle industry, while at the same time assisting in the advancement of the veterinary profession, not only of Missouri, but of the entire country.

New Dealers

FAIRBURY, ILL. — Fourteen new dealers were added recently to the list of firms handling the complete line of products manufactured by Honeggers' & Co., Inc., including livestock and poultry feeds, Honegger layers and farm buildings and equipment, the company announces. Seven states are represented by the 14 dealers as follows: Iowa, four; Nebraska, three; Missouri, two; Illinois, two; Indiana, one; Ohio, one, and Minnesota, one.

$100,000 ELEVATOR FIRE

HARTFORD, ALA. — Fire swept through several storage buildings of Holman Brothers Grain Elevator Co. in Hartford recently causing an estimated $100,000 damage. Company officials said about 25,000 bu. of grain were lost.

Rank of states in numbers of cattle and calves on farms Jan. 1, 1959. Source: USDA

Rank	All cattle and calves		Beef cattle and calves (cattle not for milk)			
			Total		Beef cows 2 years and over	
	State	Number	State	Number	State	Number
		1,000 head		1,000 head		1,000 head
1	Texas	8,510	Texas	7,402	Texas	3,948
2	Iowa	6,536	Iowa	4,988	Nebraska	1,480
3	Nebraska	4,961	Nebraska	4,364	Oklahoma	1,292
4	Kansas	4,476	Kansas	3,800	South Dakota	1,269
5	Wisconsin	4,254	Missouri	2,897	Kansas	1,137
6	Missouri	4,098	South Dakota	2,893	Missouri	1,119
7	Illinois	4,061	Illinois	2,790	Montana	1,116
8	California	3,978	Oklahoma	2,712	Iowa	949
9	Minnesota	3,973	California	2,479	Mississippi	912
10	South Dakota	3,392	Montana	2,126	Florida	865
11	Oklahoma	3,313	Colorado	1,923	Louisiana	839
12	Ohio	2,367	Minnesota	1,672	California	827
13	Mississippi	2,363	Florida	1,620	Colorado	754
14	Montana	2,269	Mississippi	1,588	Alabama	683
15	Colorado	2,159	North Dakota	1,338	North Dakota	626
16	New York	2,153	Louisiana	1,329	New Mexico	622
17	Indiana	2,107	Indiana	1,318	Illinois	615
18	Florida	2,011	Alabama	1,197	Oregon	537
19	Pennsylvania	1,877	Oregon	1,140	Wyoming	522
20	North Dakota	1,870	Ohio	1,091	Georgia	520
21	Kentucky	1,843	New Mexico	1,085	Arkansas	513
22	Michigan	1,829	Wyoming	1,079	Idaho	389
23	Alabama	1,816	Georgia	1,020	Arizona	373
24	Louisiana	1,808	Idaho	1,007	Kentucky	367
25	Tennessee	1,753	Arkansas	978	Tennessee	365
26	Georgia	1,515	Kentucky	969	Indiana	337
27	Oregon	1,497	Tennessee	853	Virginia	322
28	Arkansas	1,493	Arizona	884	Minnesota	298
29	Idaho	1,414	Virginia	766	Nevada	297
30	Virginia	1,367	Washington	740	Washington	255
31	Washington	1,178	Nevada	559	Utah	248
32	New Mexico	1,162	Utah	545	Ohio	237
33	Wyoming	1,140	Michigan	510	North Carolina	223
34	North Carolina	1,014	Wisconsin	485	South Carolina	182
35	Arizona	971	North Carolina	457	West Virginia	126
36	Utah	720	South Carolina	378	Wisconsin	106
37	South Carolina	613	Pennsylvania	333	Michigan	99
38	Nevada	597	West Virginia	292	Pennsylvania	83
39	West Virginia	541	Maryland	177	Maryland	59
40	Maryland	529	New York	135	New York	39
41	Vermont	423	Maine	26	Maine	9
42	New Jersey	213	Vermont	19	Delaware	7
43	Maine	192	New Jersey	17	New Jersey	4
44	Massachusetts	156	Delaware	15	Vermont	4
45	Connecticut	155	Connecticut	10	Connecticut	2
46	New Hampshire	97	Massachusetts	10	Massachusetts	2
47	Delaware	65	New Hampshire	8	New Hampshire	2
48	Rhode Island	22	Rhode Island	1	Rhode Island	---
United States		96,851		64,025		25,584

Rank of states in numbers of milk cows and sheep on farms Jan. 1, 1959, and pigs saved in 1958. Source: USDA

Rank	Milk cows 2 years and over		All sheep and lambs		Number of pigs saved 1/	
	State	Number	State	Number	State	Number
		1,000 head		1,000 head		1,000 head
1	Wisconsin	2,501	Texas	5,355	Iowa	20,277
2	Minnesota	1,451	Wyoming	2,256	Illinois	11,987
3	New York	1,409	California	1,893	Indiana	7,548
4	Pennsylvania	1,039	Colorado	1,829	Missouri	7,009
5	Iowa	1,035	Montana	1,786	Minnesota	6,749
6	California	945	Iowa	1,613	Ohio	4,653
7	Ohio	857	South Dakota	1,592	Nebraska	4,054
8	Michigan	820	Utah	1,382	Wisconsin	3,930
9	Missouri	811	New Mexico	1,295	South Dakota	2,843
10	Illinois	783	Ohio	1,276	Georgia	2,778
11	Texas	735	Idaho	1,174	North Carolina	2,248
12	Kentucky	628	Minnesota	987	Kentucky	2,019
13	Tennessee	628	Oregon	912	Tennessee	1,964
14	Indiana	531	Missouri	910	Texas	1,777
15	Mississippi	519	Kansas	883	Kansas	1,677
16	Kansas	441	Nebraska	784	Alabama	1,652
17	Virginia	410	Illinois	767	Michigan	1,382
18	Nebraska	392	North Dakota	673	Virginia	1,070
19	Alabama	376	Kentucky	604	Mississippi	964
20	North Carolina	375	Indiana	521	South Carolina	819
21	Oklahoma	370	Arizona	451	North Dakota	806
22	North Dakota	352	Michigan	424	Oklahoma	788
23	Arkansas	326	Nevada	421	Pennsylvania	779
24	Louisiana	321	Virginia	350	Florida	697
25	Georgia	313	Tennessee	303	Arkansas	597
26	South Dakota	306	West Virginia	289	California	567
27	Washington	286	Washington	283	Louisiana	495
28	Vermont	265	Wisconsin	282	Maryland	310
29	Idaho	243	Oklahoma	281	Oregon	296
30	Maryland	243	Pennsylvania	259	Colorado	281
31	Florida	234	New York	189	Montana	241
32	Oregon	215	Mississippi	100	Washington	223
33	West Virginia	180	Louisiana	83	New York	214
34	South Carolina	159	North Carolina	71	Idaho	199
35	New Jersey	148	Alabama	70	New Jersey	190
36	Colorado	147	Arkansas	64	West Virginia	167
37	Utah	112	Georgia	48	Massachusetts	157
38	Massachusetts	106	Maryland	47	Utah	115
39	Maine	104	Maine	43	Wyoming	58
40	Connecticut	103	New Jersey	19	Delaware	56
41	Montana	94	Vermont	14	New Mexico	56
42	New Hampshire	58	South Carolina	13	Arizona	43
43	New Mexico	54	Massachusetts	12	Nevada	31
44	Arizona	53	Connecticut	10	Maine	28
45	Wyoming	40	Florida	9	Connecticut	26
46	Delaware	33	New Hampshire	9	Vermont	18
47	Nevada	18	Delaware	6	New Hampshire	17
48	Rhode Island	17	Rhode Island	2	Rhode Island	11
United States		21,606		32,644		94,806

1/ Total pigs saved from spring and fall pig crops of 1958.

Corn Products Sales

NEW YORK — William T. Brady, president of Corn Products Co., New York, has reported to stockholders that the firm's world-wide earnings hit a new peak in 1958—$33,753,068, compared with $32,680,001 in 1957. Domestic and Canadian earnings were $32,541,739 in 1958, compared with $29,001,591 the year before.

World-wide sales for the firm in 1958 were $649,978,446, compared with $612,279,304 for 1957. Domestic and Canadian sales were $470,923,681, compared with $449,259,683 the previous year.

Farm Commodity-Feed Price Ratios

	U.S.	New Eng.	Mid-Atl.	East North Cent.	West North Cent.	South Atl.	East South Cent.	West South Cent.	Mount.	Pac.
CHICKEN-FEED—										
Farm Chickens:										
March, 1959	3.9	3.8	4.3	4.1	3.4	3.8	3.9	3.6	3.9	3.8
February, 1959	3.8	3.8	4.3	3.8	3.4	3.9	3.9	3.5	4.0	3.2
March, 1958	4.9	5.0	5.1	5.1	4.5	4.5	4.4	4.2	4.4	4.2
Average (1948-57)	5.7									
Average (March, 1948-57)	6.3									
Broilers:										
March, 1959	3.5	3.6	4.4	3.9	3.7	3.5	3.4	3.4	3.9	3.7
February, 1959	3.5	3.6	4.3	3.7	3.7	3.4	3.3	3.4	3.9	3.7
March, 1958	4.4	4.5	5.1	4.7	4.6	4.2	4.2	4.4	4.5	4.8
TURKEY-FEED—										
March, 1959	6.9	7.0	8.3	7.1	7.8	6.3	7.3	6.4	7.3	5.8
February, 1959	7.3	7.1	8.4	7.2	8.3	6.6	7.2	6.7	7.2	6.3
March, 1958	8.0	8.4	8.6	8.3	10.0	7.5	7.0	6.6	7.1	5.8
Average (1948-57)	8.6									
Average (March, 1948-57)	8.8									
EGG-FEED—										
March, 1959	9.9	10.3	10.6	9.8	9.9	10.1	10.4	9.6	10.0	9.3
February, 1959	10.4	9.9	10.9	10.1	10.0	11.0	11.5	10.7	10.3	9.9
March, 1958	12.0	13.2	13.5	11.9	12.4	11.6	11.5	11.0	10.3	10.4
Average (1948-57)	11.1									
Average (March, 1948-57)	10.1									

	U.S.	North Atl.	East North Cent.	West North Cent.	South Atl.	South Cent.	West
MILK-FEED—							
March, 1959	1.37	1.33	1.29	1.45	1.64	1.50	1.38
February, 1959	1.43	1.42	1.33	1.51	1.68	1.61	1.43
March, 1958	1.41	1.36	1.35	1.55	1.66	1.52	1.45
Average (1948-57)	1.29						
Average (March, 1948-57)	1.24						
BUTTERFAT-FEED—							
March, 1959	23.9	...	19.4	27.0	...	16.3	18.5
February, 1959	23.7	...	19.4	26.7	...	16.2	18.2
March, 1958	24.4	...	20.4	27.6	...	15.8	19.8
Average (1948-57)	22.0						
Average (March, 1948-57)	21.8						

	U.S.	North Cent.
HOG-CORN—		
March, 1959	14.5	15.1
February, 1959	14.8	15.2
March, 1958	20.3	21.6
Average (1948-57)	13.4	13.7
Average (March, 1948-57)	13.1	13.5

NOTE: Ratios computed at mid-month by U.S. Department of Agriculture. Ratios represent number of pounds of poultry feed equal in value to 1 lb. live farm chicken, turkey or 1 doz. eggs; pounds broiler growing mash equal to 1 lb. broiler; pounds concentrate rations equal to 1 lb. milk or butterfat; bushels of corn equal to 100 lb. hog. Increases in ratios are favorable to the feeder.

KEY TO GEOGRAPHICAL DIVISION

Here is a guide to the states included in the geographical divisions listed in the accompanying commodity-feed price ratios:

New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

Mid-Atlantic: New York, New Jersey, Pennsylvania.

North Atlantic: New England and Mid-Atlantic states combined.

East North Central: Ohio, Indiana, Illinois, Michigan, Wisconsin.

West North Central: Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas.

North Central: Combination of the two foregoing.

South Atlantic: Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida.

East South Central: Kentucky, Tennessee, Alabama, Mississippi.

West South Central: Arkansas, Louisiana, Oklahoma, Texas.

South Central: Combination of the two above.

Pacific: Washington, Oregon, California.

Mountain: Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Montana.

West: Combination of the two above.

PRICE RATIOS

(Continued from page 4)

No major changes were reported for milk-feed and butterfat-feed ratios.

USDA reported that the price index for poultry and eggs dropped 3% during March as declines for eggs and turkeys were only partially offset by slightly higher prices for chickens. At 153 the mid-March index was 18% below a year earlier and at its lowest level since June, 1957.

The meat animals index at 327 for mid-March was up about 2% from mid-February, as higher prices for cattle, lambs and sheep were partially offset by lower prices for calves. Hogs averaged the same as a month earlier.

Livestock feed prices declined from mid-February to mid-March, but were above a year earlier, according to the USDA report.

At 201, the March feed price index was one point below a month earlier, but about 3% above March, 1958.

Swift & Co. Announces 'Merit' Hog Purchasing

CHICAGO—Swift & Co., Chicago, has announced it is putting a new "merit-buying" system into effect in hog purchases because of the demands of consumers for leaner cuts of pork.

The new method is based on yield of the four prime lean cuts—hams, loins, picnics and Boston butts, according to P. E. Petty, vice president in charge of pork operations.

Producers will be paid 25¢ cwt. more for every 1% above 33% yield in prime cuts, which is considered to be an "average" hog.

Therefore, Mr. Petty said, if a buyer thinks a pen of hogs will yield 37% in prime cuts, he can pay $1 cwt. above the price for hogs yielding average percentages of lean cuts.

Vermont Feed Men Oppose Average Inventory Tax

MONTPELIER, VT.—Vermont feed dealers have voiced strong opposition to a House-approved bill that would bring taxation of stock in trade on the basis of annual average inventories of Vermont business establishments.

Among those who denounced the measure at a hearing before the Senate municipal corporations committee was Sen. Harold M. Brown, himself a grain dealer in Castleton.

"There's no question in the world," Mr. Brown declared, "but this tax increase is going to come out of the consumer."

Vermont's stock in trade is now taxed on the basis of April 1 inventories under personal property tax laws. A bill similar to the present proposal for a levy on annual average inventories was killed at the previous biennial session of the state's lawmakers two years ago.

A. S. McKillop, St. Albans, a spokesman for the Vermont Feed Dealers & Manufacturers Assn., told the Senate committee hearing that grain interests had "heard that the (tax) listers' association is out to get the feed dealers and the oil companies." He said the average inventory plan would "drive some retailers out of the state."

"Let's have legislation that will bring industry into the state, not drive it out," Mr. McKillop said.

Feed Supply Fire

PHILADELPHIA — A fire destroyed an undetermined amount of mineral feed at the Sea Board Supply Co. in Philadelphia recently. Carl Sandell, president of the feed supply firm, said shortly after the fire that he could not estimate the extent of the damage, but called it "considerable."

Steady Feed Grain Prices Seen in April

MANHATTAN, KANSAS—Steady prices for feed grains and steady to higher wheat prices are likely during April, according to agricultural economists at Kansas State College.

A new record quantity of wheat under supports lends strength to prices in spite of huge total supplies. It appears that some wheat now under supports may need to be redeemed to meet requirements until the new harvest.

Steady prices for feed grains are expected in April. Normally, prices strengthen at this time of year. However, large supplies together with prices near effective support rates will limit seasonal increases this year, the report said. Farmers reported on March 1 plans for increasing acres planted to corn from 74.7 million to 83.9 million acres and barley from 16.3 million to 17.1 million acres. Decreases were planned for oats and grain sorghum, along with soybeans.

Corn supplies for the current feeding season which began last October amounted to nearly 5.3 billion bushels. This is the first year supplies exceeded 5 billion bushels. Increased utilization is in prospect; however, supplies have increased much more rapidly than has utilization. This will cause the largest carryover on record, about 1.8 billion bushels, next Oct. 1.

Spencer Kellogg Sales And Earnings Increase

BUFFALO, N.Y.—Spencer Kellogg & Sons, Inc., Buffalo, reported its earnings quadrupled in the six months ended Feb. 28, the first half of the company's fiscal year.

Howard Kellogg, Jr., president, noted that the company's soybean crushing was at an all-time high during the first half due to an unprecedented demand for soybean oil meal used in animal feeds. There has also been a heavy demand for linseed oil meal, and for manufactured animal feeds that are products of two of the company's major divisions.

Net profit in the six-month period rose to $928,653, or 74¢ a share, from $231,003, or 18¢ a share, in the like period a year ago.

Earnings for the three months ended Feb. 28—the second quarter of the company's fiscal year—were up to 38¢ a share from 11¢ a share in the year-ago quarter.

Sales in the latest six-month period rose to $64,328,709 from $49,932,288 a year earlier.

Mr. Kellogg said earnings have turned "irregular" since the end of the fiscal first half but that, "as always, it is difficult to make a worthwhile prognostication of future earnings."

Purina Feed Plant Opens in Athens, Ga.

ATHENS, GA.—The Ralston Purina plant at Athens started production of Purina Chows in mid-March, according to an announcement by David L. Grant, manufacturing vice president at the company's headquarters in St. Louis.

The mill has been undergoing major repairs since last October when it was purchased from Athens Milling Co. It will be operated as a branch of the company's Gainesville, Ga., plant. R. W. Hampton is manager at Gainesville, and Henry Clayton is production manager at Athens.

The Athens plant is making poultry feeds to be distributed among growers in the northern Georgia broiler area. In addition to the major overhaul job of equipment and facilities in the plant, a number of new pieces of production equipment were added.

Pfizer Announces Plans for Annual Research Session

TERRE HAUTE, IND.—Plans for its seventh annual Research Conference have been announced by Chas. Pfizer & Co., Inc. The conference this year has been expanded from one to two days, May 8-9, "to bring agricultural marketing within the scope of the meeting for the first time." It will be held at Pfizer's agricultural research and development center near Terre Haute.

Experts who are scheduled to take part in the conference include Dr. J. R. Couch, professor of poultry science, Texas A&M College; Dr. T. W. Dowe, director, University of Vermont Extension Service; Dr. R. P. Link, professor of veterinary medicine, University of Illinois, and Dr. C. M. McCay, professor of nutrition, department of animal husbandry, Cornell University. A Canadian is to speak also. He is Dr. B. W. Crampton, head, nutrition department, Macdonald College of McGill University.

Among those present for the conference this year will be 28 government agricultural officials, scientists and feed industry executives from 12 European countries.

Their visit to Terre Haute will be part of a nine-day program in which European and U.S. agricultural leaders will appraise scientific developments in the world's livestock industry. The program, centered on feeding, will be launched May 4 in Washington, D.C., at a meeting conducted by the U.S. Department of Agriculture. Later, the European visitors will tour agricultural and industrial facilities in the Midwest, including the Pfizer facilities.

The European visitors and an estimated 500 U.S. feed and agricultural executives and scientists will see at Pfizer's 700-acre research center how American private industry studies and solves problems of animal health, nutrition and feed utilization in livestock production, company officials pointed out.

Previous one-day Pfizer research conferences have been concerned mainly with feed and animal production developments. This year's assembly will have the second day devoted to agricultural marketing problems, Pfizer announced. Feed and food industry executives, and banking and farming authorities will participate as speakers and leaders in panel discussions. The foreign guests will present the current status of the feed industry in their own countries.

As previously, the conference is being held just prior to the American Feed Manufacturers Assn. convention in Chicago.

The European group will also visit Purdue University, West Lafayette, for a first-hand look at a U.S. land-grant college, and the northern utilization research and development division laboratories of USDA's agricultural research service, Peoria, Ill. The group will leave for home from Chicago May 12, after the AFMA convention.

The Soybean Council of America has joined as a cooperator with the USDA in bringing the European guests to the U.S. and in sponsoring the International Livestock & Poultry Feed Symposium, which will begin officially May 4 in Washington.

January Fish Meal Output Shows Boost

WASHINGTON — Fish meal production in January was sharply increased over January, 1958, the Fish & Wildlife Service has announced.

Production of 3,095 tons of fish meal in January, 1959, was a gain of more than 1,000 tons (49%). All items processed into meal, scrap, and oil, with the exception of tuna and mackerel, were produced in larger quantities in January, 1959, than during the same month of 1958.

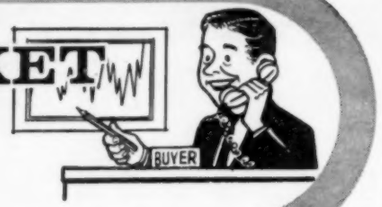
farmers pay for, and the other free.

were lost.

compared with $32,680,001 in 1957.

previous year.

The FEED MARKET



PRICE QUOTATIONS, MARKET TRENDS
OF PRINCIPAL INGREDIENTS

NOTE: Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bagged, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

A AND D FEEDING OIL

Boston: Demand fair; supply adequate; 600 D, 1,500 A 17½¢ lb.; 300 D, 2,250 A 18¢; 300 D, 1,500 A 16½¢; 300 D, 750 A 14½¢; 400 D, 3,000 A 20¢; 300 D, 3,000 A 19½¢; 75 D, 750 A 14½¢.

Denver: Demand fair; trend steady; supply ample; 300 D, 2,250 A 22¢ lb.

Minneapolis: 10,000 A 35¢ lb.; 300 D, 2,250 A 21½¢ lb.; 300 D, 1,500 A 20½¢ lb.; 300 D, 75 A 18½¢ lb.

Chicago: Demand fair; trend steady; supply adequate; straight A feeding oil, with 10,000 units vitamin A per gram 7@7½¢ a million units of vitamin A; l.c.l. packed in 55-gal. drums, f.o.b. Chicago, drums included.

New York: Demand fair; trend steady; supply limited; price per lb. in 55-gal. drums (413 to 420 lb.): 300 ICU, 750 A 13⅛@15⅛¢, 1,500 A 15⅛@17¢, 2,250 A 17⅛@20¢, 3,000 A 19@21¢; 600 ICU, 1,500 A 16@18¢, 2,250 A 18@19⅛¢; f.o.b. Massachusetts, New York or Pennsylvania.

ALFALFA MEAL

Ft. Worth: Demand good on dehydrated, extremely slow on suncured; supply sufficient; dehydrated, 20% protein, 150,000 A $66, truck; 17% protein, 100,000 A $63 truck, $66 rail; suncured 13%, No. 1 ¼-in. grind $40, nominal, truck or rail.

Denver: Demand fair; trend steady; supply ample; $56, Denver.

Cincinnati: Demand fair; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A $78.50.

Omaha: Demand good; trend steady; supply tight; 17% dehydrated, 100,000 A units, bulk pellets $60; sacked meal $65, Omaha basis.

Philadelphia: Demand and supply fair; 17% dehydrated $81.

Boston: Demand improved; supply steady; dehydrated, 17% $82; suncured, 13% $50, nominal.

New Orleans: Demand good; trend steady; supply light; vitamin A, 17% $79@81; pellets $77@79.

Portland: Demand good; trend higher; supply limited; suncured 15% $41.50; dehydrated $68.50.

Los Angeles: Demand fair; trend steady; supply adequate; dehydrated meal, 17% protein, 100,000 A $51 bulk; dehydrated pellet meal, 17% protein, 100,000 A $53 bulk; suncured meal, 15% protein $42@43 bulk; suncured crumbles, 15% protein $44@45 bulk.

Minneapolis: Tight supplies; fairly good demand; steady trend; 17% alfalfa meal with 100,000 units vitamin A; reground pellets $70; oiled reground $72; bulk $3 less.

Chicago: Demand slow; trend higher; supply fair excepting 17% dehydrated with 100,000 units vitamin A guaranteed; 17% dehydrated with 100,000 units vitamin A guaranteed $67.50@68; 15% suncured No. 1 fine ground $53.99@54.

Kansas City: Demand very good, although shipments are mainly against contracts since mills' supplies are very scarce; trend steady to stronger; dehydrated alfalfa meal with 17% protein and 100,000 units vitamin A guaranteed on arrival; reground pellets $65 sacked, greased meal $67 sacked, pellets $60 bulk; 18% protein, 125,000 units A meal $69 sacked; suncured supplies adequate with slow demand, No. 1 fine ground $35, No. 1 ¼-in. $32.50@33, No. 2 ¼-in. $29 sacked.

St. Louis: Demand slow; trend steady; supply limited; dehydrated, 17%, 100,000 A $70; suncured, 13% fine $39.

Buffalo: Demand and supply fair; trend steady; $80, Boston.

Seattle: Demand fair; trend steady; supply good; 15% protein suncured $44, truck loads; 136,000 A unit dehydrated $69, truck loads.

Memphis: Demand fair; trend weaker; supply ample; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $69.

ANIMAL FAT (STABILIZED)

San Francisco: Demand fair; supply ample; bleachable fancy 7¼¢ lb.; yellow grease 7¾¢ lb.

New Orleans: Demand fair; trend steady; supply adequate; 7@7¼¢ lb., tank cars.

Ft. Worth: Demand good; supply rather tight; prime tallow, tank cars 7¼¢ lb.; drums 8¾¢ lb., f.o.b. north Texas packing plants with returnable drums.

Boston: Demand fair; supply good; tallow 7½¢ lb., yellow grease 6¾¢ lb., f.o.b.

Louisville: Demand slow; trend weak; supply good; all off ¼¢ lb.; bleachable fancy 7¼¢ lb.; white tallow 7¾¢ lb.; yellow grease 6¾¢ lb.

Chicago: Demand good; trend steady; supply short; bleachable fancy tallow, tank, truck or car lots 7¾@7¾¢ lb.; yellow grease 6¾@7¢ lb.

Kansas City: Demand improved; trend steady; supply adequate; prime tallow 7@7¼¢ lb., tank car.

Atlanta: Demand good; trend steady; supply ample; 7¼¢ lb. bulk.

BARLEY FEED

Boston: Demand slow; supply good; $47.

Philadelphia: Demand and supply fair; pulverized $51.50.

Los Angeles: Demand slow; trend steady; supply adequate; standard rolled $3.30 cwt.; standard ground $3.30 cwt.

Milwaukee: Demand fair; supply good; needles $2@$1.08; ground screenings $25, sacked, Milwaukee.

San Francisco: Demand fair; supply ample; rolled $65.60; ground $64.50.

New Orleans: Demand slow; trend unchanged; supply adequate; $64@65.

Portland: Demand slow; supply ample; trend unchanged; rolled $63; ground $61.

Ogden: Supply normal; rolled $50@55; whole barley $42@47.

Chicago: Demand improved; trend easier; supply ample; $37.

Baltimore: Demand better; trend higher; supply adequate; $48.50.

Seattle: Demand fair; trend steady; supply good; $50.50 bulk, truck lots.

BENTONITE (SODIUM)

Denver: Demand fair; trend good; supply ample; $21.

Cincinnati: Demand steady; supply adequate; f.o.b. Cincinnati, minimum 30-ton carlots: 80 granular $31.50; 200 mesh fine $31.

Chicago: Demand steady; supply adequate; f.o.b. Wyoming and South Dakota shipping points: granular, 30 mesh $16.50; fine granular, 80 to 100 mesh $13.75; powder, 200 mesh $13.50; f.o.b. Belle Fourche, S.D., minimum 30-ton carlot: 80 granular $13.50 net; 200 mesh, fine $13.25 net.

BLOOD FLOUR

Louisville: Demand fair; trend firm; supply ample; $120@125.

BLOOD MEAL

Los Angeles: Demand fair; trend steady; supply limited; $7.50 a unit of ammonia.

San Francisco: Demand good; supply tight; $8 a unit of ammonia.

New Orleans: Demand slow; trend unchanged; supply ample; $120@125.

Ogden: Supply normal; $112.50 in 100-lb. bags.

Portland: Demand good; supply ample; trend unchanged; $130.

Chicago: Demand fair; trend steady; supply light; guaranteed 80% protein $140 in 100-lb. bags.

Louisville: Demand fair; trend steady; supply good; $120@125.

BONE MEAL (STEAMED)

Ft. Worth: Demand good; supply light; $90, f.o.b. Ft. Worth, local manufacture.

Los Angeles: Demand fair; trend steady; supply adequate; imported $73.50 in 10-ton lots.

San Francisco: Demand good; supply ample; $75.

New Orleans: Demand slow; supply light; trend steady; $95@105.

Portland: Demand good; supply ample; trend unchanged; $100.

Boston: Demand and supply steady; $90.

Cincinnati: Demand good; trend steady; supply short; $115, Cincinnati.

Denver: Demand good; trend strong; no supply (on strike); $80, nominal, Bay Shore, Cal.

Chicago: Demand good; trend higher; supply light; $105 in 50-lb. bags.

Louisville: Demand slow; trend steady; supply light; $95@105.

Buffalo: Demand good; trend steady; supply limited; $100, sacked.

Seattle: Demand good; trend firm; supply limited; $87, ex-dock, truck lots.

BREWERS DRIED GRAINS

New Orleans: Demand fair; trend steady; supply ample; $55@56.50.

Boston: Demand fair; supply good; 22% $54@54.50; 26% $58@60.

Philadelphia: Demand dull; trend unsettled; supply fair; $60.

Cincinnati: Demand poor; trend lower; supply adequate; $60.

Los Angeles: Demand fair; trend unchanged; supply limited; $49.50 bulk, $53.50 sacked.

Ft. Worth: Demand fair; supply moderate; 26% protein $56.

Milwaukee: Demand good; supply fair; $53.50.

San Francisco: Demand fair; supply ample; $54.

Chicago: Demand light; trend higher; supply fair; 26% $54.50.

St. Louis: Demand good; trend steady; supply adequate; $49.

Louisville: Demand fair; trend firm; supply good; $52.

Buffalo: Demand fair; trend steady; supply fair; $54, bulk, Boston.

BREWERS DRIED YEAST

Boston: Demand and supply steady; 11¢ lb.

Denver: Demand light; trend steady; supply ample; 9¢ lb., f.o.b. Golden, Colo.

Omaha: 10½¢ lb.

Los Angeles: Demand and trend steady; supply limited; 10¢ lb. in 5-ton lots; 11¢ lb. in 1-ton lots; 12¢ lb. in less than 1-ton lots.

San Francisco: Demand fair; supply good; 10¢ lb.

Portland: Demand steady; supply ample; trend unchanged; 8½¢ lb.

Chicago: Demand good; trend easier; supply limited; 9½@10¢ lb. in carlots; 9¾@12¼¢ lb. l.c.l.

Milwaukee: Demand good; trend easier; supply moderate; 10@11¢ lb. in carlots; 10½@12¼¢ lb. l.c.l.

St. Louis: Demand good; trend easier; supply limited; 9½¢ lb. in carlots; 10½¢ lb. in ton lots; 11½¢ lb. in less than ton lots.

Louisville: Demand slow; trend steady; supply normal; 10@10½¢ lb.

Cincinnati: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

Pittsburgh: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

New Orleans: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

New York: Carlots 9½¢ lb.; 10-ton lots 10¢ lb.; 5-ton lots 10½¢ lb.; ton lots 11¢ lb., f.o.b. New Jersey.

Buffalo: Demand good; trend steady; supply limited; $10.75 cwt.

Seattle: Demand slow; trend steady; supply ample; $12 cwt.

BUTTERMILK-CONDENSED

Los Angeles: Demand fair; trend unchanged; supply adequate; 5½¢ lb. in 100-lb. lots; 4¾¢ lb. in 500-lb. lots.

San Francisco: Demand fair; supply good; $5 cwt.

New Orleans: Demand slow; supply normal; trend steady; $4.25@4.30 cwt.

Ogden: Supply normal; $4.40, 100-lb. drum.

Boston: Demand slow; supply tight; 3½¢ lb.

Philadelphia: Demand slow; supply light; $4.25 cwt.

Wichita: Demand good; supply insufficient; $2.90 cwt. in barrels.

Louisville: Demand and supply nil; trend steady; $4.25 cwt., nominal.

Chicago: Demand steady; trend firm; supply adequate; $3.25@3.50 cwt., carlots.

CALCITE CRYSTALS AND FLOUR

(All prices net, including freight)

New York: Crystals $15.28, flour $10.28.
Buffalo: Crystals $16.11, flour $11.11.
Toledo: Crystals $17.96, flour $12.96.
Boston: Crystals $16.53, flour $11.63.
Limecrest, N.J.: Crystals $10.50, flour $5.50.

CALCIUM CARBONATE

Cincinnati: Demand fair; trend steady; supply adequate; $8@9 cwt.

Los Angeles: Demand fair; trend unchanged; supply ample; $10.25.

Chicago: Demand and trend steady; supply adequate; fine grind, plain $9.54, 100-lb. bag; bulk, in hopper cars $7.54; bulk in boxcars $8.04; granular grind $1 premium.

Minneapolis: Fine grind, 50-lb. bag $12.25, 100-lb. bag $11.50; bulk, boxcar $10; bulk hopper $9.50; coarse grind $1 premium, delivered Minneapolis.

Seattle: Demand and trend steady; supply good; $14, ex-warehouse, truck lots.

CHARCOAL

Los Angeles: Demand fair; trend unchanged; supply limited; hardwood poultry $156 in less than ton lots; $144.40 in ton lots.

San Francisco: Demand steady; supply ample; $141.

Boston: Demand and supply steady; $100.

Chicago: Demand quiet; trend steady; supply adequate; poultry charcoal $110 in 50-lb. multiwalls.

COCONUT MEAL

Los Angeles: Demand slow; trend weaker; supply adequate; $80, bulk, offshore.

San Francisco: Demand good; supply tight; solvent $85.50.

Portland: Demand slow; trend higher; supply limited; $87.

Seattle: Demand fair; trend steady; supply ample; $80, via truck (California).

COD LIVER OIL (FORTIFIED)

Boston: Demand fair; supply adequate; 600 D, 2,250 A 19¢ lb.; 300 D, 3,000 A 20½¢; 300 D, 2,250 A 18½¢; 600 D, 1,500 A 18¢; 300 D, 1,500 A 17¢.

New York: Demand limited; trend steady; supply fair; price per lb. in 55-gal. drums (413 to 420 lb.): 300 ICU, 750 A 14½@15⅛¢, 1,500 A 18⅛@20¢, 2,250 A 18⅛@21¢, 3,000 A 21⅛@23¢; 600 ICU, 1,500 A 17⅛@19½¢, 2,250 A 20@22¢, 3,000 A 22@23¢; f.o.b. Massachusetts, New York or Pennsylvania.

CONDENSED FISH SOLUBLES

Boston: Demand active; supply scarce; 5¢ lb., nominal.

Denver: Demand fair; trend steady; supply ample; dried $182.40, f.o.b. Denver.

Los Angeles: Demand fair; trend steady; supply limited; 5¢ lb.

New Orleans: Demand light; supply limited; 50% solid $107@110.

New York: Demand good; trend steady; supply tight; 5⅛@5¼¢ lb., f.o.b. eastern shore.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are sacked basis, bulk basis $5 less)

Minneapolis: Feed $57.80, meal $88.80.
Atlanta: Feed $63.98, meal $94.98.
Birmingham: Feed $62.64, meal $93.64.
Boston: Feed $62.84, meal $93.84.
Chicago: Feed $51, meal $82.
Cleveland: Feed $59.14, meal $90.14.
Denver: Feed $61.51, meal $92.51.
Ft. Worth: Feed $59.96, meal $90.96.
Indianapolis: Feed $56.36, meal $87.36.
Kansas City: Feed $51, meal $82.
Louisville: Feed $58.21, meal $89.21.
New Orleans: Feed $61.20, meal $92.20.
New York: Feed $62.43, meal $93.43.
Norfolk: Feed $61.71, meal $92.71.
Philadelphia: Feed $62.02, meal $93.02.
Pittsburgh: Feed $59.96, meal $90.96.
St. Louis: Feed $51, meal $82.

CORN OIL MEAL

Cincinnati: Demand fair; trend steady; supply adequate; $55.

Louisville: Demand dull; trend steady; supply light; $58.45.

COTTONSEED OIL MEAL

Ft. Worth: Demand good; supply light; 41% old process $71, prompt; pellets $2 additional; cottonseed hulls $19.

Boston: Demand fair; supply spotty; $80@81.

Philadelphia: Demand dull; trend unsettled; supply fair; $73.50.

Wichita: Demand fair; supply sufficient; 41% old process $72.

Omaha: Demand poor; trend strong; supply tight; 41% solvent $67, bulk.

Cincinnati: Demand fair; trend steady; supply adequate; $71.50.

Los Angeles: Demand fair; trend steady; supply adequate; $71@72 bulk.

San Francisco: Demand good; supply tight; 41% solvent $74.70; 44% $77.70.

New Orleans: Demand slow; supply adequate; trend steady; $75.50@76.

Portland: Demand slow; supply ample; trend unchanged; $75.

Ogden: Supply average; 41% $77@82.

Chicago: Demand good; trend higher; supply fair; hydraulic $65.50; solvent $64.50; Memphis basis.

Kansas City: Demand fair; trend steady; supply readily available; old process meal $64.50@65, Memphis; solvent meal $64@64.50.

St. Louis: Demand fair; trend firm; supply ample; solvent $68.50.

Louisville: Demand slow; trend steady; supply light; old process $70; new process $68.

Seattle: Demand fair; trend steady; supply ample; 41% expeller process $82, truck lots.

Memphis: Demand slow; trend upward; supply adequate; prime 41% protein, old process $65; new process, 41% solvent $64.

Buffalo: Demand poor; trend steady to higher; supply adequate; $82.50, Boston.

Atlanta: Demand fair; trend steady; supply limited; 41% old process $68.

CURACAO PHOSPHATE

New York: Trend steady; ground Curacao phosphate in 100-lb. bags $48, f.o.b. cars or trucks, New Orleans, Jacksonville, Fla., or Philadelphia.

D ACTIVATED ANIMAL STEROL, POWDERED

Cincinnati: Demand fair; trend steady; supply ample; 1,500 ICU 11@12¢ lb.; 3,000 ICU 18¢ lb., warehouse.

Kansas City: Demand fair; trend steady; supply adequate; 1,500 ICU 9⅝@10¢ lb.; 3,000 ICU 11½@12¢ lb., in ton lots or larger.

New York: Demand and supply good; trend steady; price per lb. in 50- and 100-lb. bags or 100-lb. drums: 1,500 ICU 8@12¢ bagged, 12@13¢ drums; 3,000 ICU 13@17¢ bagged, 17@18¢ drums, f.o.b. or delivered basis Pennsylvania, Delaware or New York.

DEACTIVATED PLANT STEROL, POWDERED

Chicago: Demand good; supply adequate; 4 million U.S.P. units per lb. 15¢ lb. in ton lots, less than ton lots 17¢ lb.; 12 million units per lb., five tons to a carload 28¢ lb.; ton lots and less 30¢ lb.

DEFLUORINATED PHOSPHATE

Tupelo, Miss.: Minimum phosphorus 13%, minimum calcium 31%, maximum fluorine .12%, $51 net ton, f.o.b. Tupelo in 100-lb. multiwall bags, $48 in bulk.

Wales, Tenn.: Minimum phosphorus 18%, minimum calcium 33%, maximum calcium 36%, maximum fluorine .18% $69.12 net ton, f.o.b. Wales in 100-lb. multiwall bags, $3 less in bulk.

Houston: Minimum phosphorus 19%, minimum calcium 32%, maximum calcium 35%, maximum fluorine .19% $71.50, net ton, f.o.b. Houston, 100-lb. multiwall paper bags; $68.50 in bulk.

Coronet, Fla.: Minimum phosphorus 18%, minimum calcium 31%, maximum calcium 34%, maximum fluorine .18%; carlots $63.50, truck load $64.25, net ton, f.o.b. Coronet in 100-lb. multiwall bags $60.50 and $61.25 in bulk.

Cincinnati: 18% phosphorus $81, sacked; 13% phosphorus $64.98, sacked, Cincinnati.

DICALCIUM PHOSPHATE

Chicago: Stock food grade, 18.5% phosphorus, 20,000 lb. or more $83.25 net ton in 100-lb. papers, basis Chicago Heights, Ill., or Nashville, Tenn.; less than 20,000 lb. $93.25; 21% phosphorus, 20,000 lb. or more $94.50, basis Chicago Heights and Nashville; less than 20,000 lb. $104.50; bulk boxcars or hoppers $3 net ton less than bagged material.

Bonnie, Fla.: Minimum phosphorus 18½%, granular $83.25; freight equalized with closest producing point, carload basis.

Texas City, Texas: 18.5% minimum phosphorus, 21% minimum calcium, 24% maximum, granular $77.70 net ton, f.o.b. Texas City in 100-lb. multiwall bags; bulk, boxcars and hoppers, $3 net ton less than bagged material.

Columbia, Tenn.: Minimum phosphorus 18½%, minimum 25% calcium, maximum .01% fluorine guarantee $83.25, f.o.b. Columbia, in 100-lb. multiwall bags; freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Minneapolis: 18.5% phosphorus, 24% calcium granular or fine ground $94.10, delivered; $3 less in bulk.

Trenton, Mich.: Minimum phosphorus 18½%, maximum fluorine .03% guaranteed $83.25, f.o.b. Trenton in 100-lb. multiwalls; minimum phosphorus 21%, maximum fluorine .03% guaranteed $94.50, f.o.b. Trenton in 100-lb. multiwall bags.

Cincinnati: 18½% phosphorus $92@93.

Denver: Demand good; trend firm; supply ample; $90.

Portland: Demand slow; supply ample; trend unchanged; $115.

Buffalo: Demand and supply fair; trend steady; $63, bulk, Boston.

Seattle: Demand fair; trend steady; supply limited; $67, truck lots.

Louisville: Demand good; trend steady; supply fair; April prices same as March; bourbon grains: light $58, dark $59, solubles $77.

DISTILLERS DRIED GRAINS

San Francisco: Demand fair; supply ample; solubles $85.

Omaha: Demand good; trend strong; supply tight; sacked bran $42; sacked gray

Ft. Worth: Demand good; supply sufficient; blackstrap 12¼¢ gal., f.o.b. Houston;

Cincinnati: Trend steady; feed grade (in feed supplements) 4¢ gram in less than

VEGETABLE AND ANIMAL FAT

Ft. Worth: Demand good; limited offer-

Boston: Demand good; supply light; light $68@68.50; dark $69@69.50.
Philadelphia: Demand slow; trend unsettled; supply light; lights $68, darks $69.
Cincinnati: Demand poor; trend steady; supply adequate; by truck $59.

DRIED BEET PULP

Los Angeles: Demand slow; trend unchanged; supply adequate; molasses, old crop $52.50@53.60, bulk.
Milwaukee: Demand good; supply fair; plain $54, molasses $54.
San Francisco: Demand good; supply fair; $55.50.
New Orleans: Demand fair; trend unchanged; supply sufficient; $57@58.
Portland: Demand good; supply limited; trend unchanged; $54.
Ft. Worth: Demand slow; supply sufficient; carlots, 50-lb. papers, April $60.33@61.33.
Ogden: Supply normal; $44@48.
Boston: Demand good; supply fair; domestic $60; Canadian $61.
Denver: Demand good; trend steady; supply ample; $49.23.
Buffalo: Demand fair; trend steady; supply adequate; $60.50, Boston.
Seattle: Demand good; trend firm; supply limited; $49, carlots.

DRIED BUTTERMILK

Los Angeles: Demand fair; trend steady; supply adequate; 11¾¢ lb.
Milwaukee: Fair demand; fair supply; $10 cwt.
San Francisco: Demand fair; supply ample; 11½¢ lb.
New Orleans: Demand slow; trend unchanged; supply adequate; $12@12.50 cwt.
Ogden: Supply average; $8.50, 100-lb. bag.
Buffalo: Demand good; trend steady; supply limited; $11.85 cwt.
Chicago: Demand good; trend steady; supply light; medium acid $11@11.25, sweet cream in carlots $11.25@11.50 cwt.
Louisville: Demand slow; trend easy; supply ample; 11⅛@12¢ lb.

DRIED CITRUS PULP

Boston: Demand slow; supply ample; $35@36.
Los Angeles: Demand fair; trend unchanged; supply plentiful; orange pulp $42 bulk, lemon pulp $40 bulk.
San Francisco: Demand and supply fair; meal $54.
New Orleans: Demand fair; trend steady; supply ample; $35@40, f.o.b. Florida.
Buffalo: Demand poor; trend steady; supply adequate; $37.50, sacked, f.o.b. Florida points.
Atlanta: Demand good; trend steady; supply limited; $35@40; meal $30@35, f.o.b. Florida producing mills.

DRIED SKIM MILK

Los Angeles: Demand fair; trend unchanged; supply adequate; 14¢ lb. in less than ton lots; 13¾¢ lb. in ton lots.
Portland: Demand good; supply ample; trend unchanged; 13¢ lb.
Milwaukee: Demand and supply fair; $11 cwt.
San Francisco: Demand and supply fair; 13½¢ lb.
New Orleans: Demand fair; trend firm; supply ample; $12@12.50 cwt.
Ogden: Supply average; $15.15, 100-lb. drum.
Boston: Demand active; supply scarce; 12¢ lb. nominal.
Philadelphia: Demand slow; supply fair; $12.50 cwt.
Cincinnati: Demand fair; trend steady; supply adequate; 10½@10¾¢ lb.
Buffalo: Demand fair; trend steady; supply ample; spray $10.65 cwt.
Chicago: Demand fair; trend easier; supply adequate; $10.75@11 cwt., in carlots.
Minneapolis: Good demand; fairly tight supplies; steady trend; $10.75@11 cwt.
Louisville: Demand slow; trend steady; supply light; 11½@12¢ lb.

DRIED WHEY

Boston: Demand steady; supply short; 5½¢ lb. nominal.
Ft. Worth: Demand fair; supply adequate; carlots, standard $6; $6.25 ton lots, f.o.b. warehouse, Ft. Worth.
Philadelphia: Demand slow; supply light; $6.50 cwt.
Cincinnati: Demand fair; trend steady; supply adequate; $6.15 cwt.
Denver: Demand fair; trend steady; supply ample; $6.05 cwt.
Los Angeles: Demand fair; trend unchanged; supply ample; $6.10 cwt. in carloads; $6.40 cwt. in l.c.l.
San Francisco: Demand steady; supply good; $5.75 cwt.
New Orleans: Demand fair; trend steady; supply adequate; $5.50@6 cwt.
Portland: Demand good; supply ample; trend unchanged; $7 cwt.
Ogden: Supply average; $6.90, 100-lb. bag.
Louisville: Demand slow; trend steady; supply ample; 6@6½¢ lb.
Minneapolis: Fair demand; fair supplies; steady trend; $5.50 cwt., f.o.b. producers' points.
Kansas City: Demand good; trend steady; supply light; $5.50 cwt., producers' plants for regular and partially delactosed.
Chicago: Demand good; trend steady; supply fair; $5.50 cwt., f.o.b. plant.
Seattle: Demand and trend steady; supply good; $6.40 cwt., ex-warehouse, l.c.l.

FEATHER MEAL (HYDROLYZED)

Ft. Worth: Demand excellent; supply limited; 85% to 87% protein $108.50, f.o.b. trucks, north Texas plants.
Los Angeles: Demand fair; trend firm; supply ample; $1.25 a unit of protein.
Boston: Demand active; supply nil; withdrawn temporarily.
Atlanta: Demand fair; trend steady; supply ample; $105, f.o.b. Georgia, Ala., producing mills.
Salisbury, Md.: Good demand; limited supply; $100, bulk, f.o.b. plants.

FISH MEAL

Boston: Demand active; supply short; $157, April shipment.
Cincinnati: Demand fair; trend steady; supply adequate; $164.
Denver: Demand good; trend steady; supply tight; $2.40 a unit of protein, f.o.b. West Coast.
Los Angeles: Demand good; trend firm; supply tight; local production, 60% protein $2.45@2.47½ a unit.
Milwaukee: Demand and supply fair; 60% $159.50, Milwaukee.
San Francisco: Demand good; supply tight; $2.35 a unit of protein.
New Orleans: Demand and supply light; trend steady; menhaden, 60% $162@164, scrap 60% $158@159, f.o.b. Gulf.
Portland: Demand slow; supply ample; trend unchanged; $2.25 a unit.
Ft. Worth: Demand good; supply extremely limited for nearby pickup; 65% Peruvian $154.50, prompt, f.o.b. Houston, second week April delivery.
Ogden: Supply average; $2.20 a unit, f.o.b. Coast; 65% $172@174.
Buffalo: Demand good; trend steady; supply ample; 60% menhaden $175 bulk, $180 sacked.
Seattle: Demand fair; trend steady; supply good; $2.33 a unit protein, truck lots (Canadian production).
Atlanta: Demand fair; trend weak; supply limited; 60% $153, ex-vessels, Atlantic and Gulf ports.
Louisville: Demand dull; trend steady to strong; supply light; $175, nominal.
Minneapolis: Good demand; tight supplies; steady trend; 60% blended fish meal $180, Minneapolis; 70% herring $2.20 a unit, f.o.b. West Coast; May-June $2.25 a unit.
Chicago: Demand fair; supply fair; trend irregular; eastern menhaden, 60% $160@162, f.o.b. East Coast; western blended, no quotes; Canadian herring meal, 74% $2.25 a unit subject to production; sacked menhaden scrap, burlap bags $158, cars, East Coast ports.

HAY

Los Angeles: Demand fair; trend steady; supply ample; new crop, U.S. No. 1 $35@37; new crop, U.S. No. 2 leafy $33@34, U.S. No. 2 green $28@30 nominal, U.S. No. 2 $24@26 nominal.
Portland: Demand good; supply limited; trend unchanged; $34.
Ogden: Supply normal; $1@1.25 bale; $18 ton in the barn.
Boston: Demand and supply steady; No. 2 timothy $40@42.
Philadelphia: Demand dull; supply light; $28@30.
Ft. Worth: Demand fair for alfalfa, practically nil for prairie and Johnson grass; supply sufficient; carlots, baled, No. 1 alfalfa $38@40, No. 2 $36@38; prairie No. 2 $26@28; No. 2 Johnson grass $24@26, delivered Texas common points.
Wichita: Demand poor; supply ample; prairie $15, alfalfa $15@18.
Cincinnati: Demand poor; trend steady; supply adequate; No. 1 timothy $24; No. 1 second cutting green alfalfa $31; mixed $27; wheat or oat straw $19.
Denver: Demand average; trend fair; supply ample; alfalfa, baled $24@25, first and second cutting.
Seattle: Demand and supply fair; trend firm; alfalfa, U.S. No. 2 green $34, truck lots.
Louisville: Demand slow; trend steady; supply ample; local hay, No. 1 $25, No. 2 $23; straws, any variety $25.

HOMINY FEED

Boston: Demand fair; supply adequate; $50.50 in bulk.
Cincinnati: Demand fair; trend steady to higher; supply adequate; $48.
Milwaukee: Demand good; supply fair; $47.50.
New Orleans: Demand slow; supply fair; trend steady; $48.50@49.
Louisville: Demand dull; trend steady; supply light; $48.50.
St. Louis: Demand fair; trend steady; supply tight; yellow $45.50.
Kansas City: Demand fair; trend steady; supply fairly tight; yellow $39.50@40 bulk, $3.50 more for sacks.
Chicago: Demand and supply good; trend higher; $45.50.
Seattle: Demand and supply good; trend steady; $54 carlots.
Buffalo: Demand fair to good; trend steady to higher; supply adequate; $51, bulk, Boston.
Memphis: Demand poor; trend steady; supply ample; white $46, yellow $48.

LINSEED OIL MEAL

Los Angeles: Demand fair; trend firmer; supply adequate; local production, 29% protein $72 bulk.
Ft. Worth: Demand slow; supply adequate; solvent $100 rail, $96.50 truck.
Milwaukee: Demand good; supply fair; old process $95, April, nominal; $76, May; new process $85.50, April, nominal; $71, May.
San Francisco: Demand fair; supply ample; $80.
New Orleans: Demand slow; supply ample; trend steady; $84.50@86.50.
Portland: Demand light; trend higher; supply limited; $87.
Boston: Demand slow; supply light; $92.
Philadelphia: Demand and supply fair; trend unsettled; 34% $97.50.
Wichita: Demand slow; supply ample; 34% $86.
Omaha: Demand poor; trend easy; supply ample; 34% solvent $75.80 bulk; 32% old process $82.80, Omaha basis.
Cincinnati: Demand poor; trend steady; supply fair; new process $91.
Denver: Demand fair; trend steady; supply tight; $93.50.
Seattle: Demand fair; trend firm; supply limited; 34% protein $90, carloads.
Louisville: Demand dull; trend steady; supply scarce; nominal, none available, production nil; old process $104.50, new process $93.50.
Minneapolis: Demand slacked off with announcement of government crushing program; supplies remain fairly tight because of small supplies now available for crushing; nearby $71@72, bulk, for solvent; last half April and May quoted at $60.
Kansas City: Demand slow; trend steady; supply tight for old process, adequate for solvent with more supplies expected because of toll crush coming up; solvent meal $70, bulk, Minneapolis; old process $80.
Chicago: Demand good; trend sharply higher; supply slow; solvent $75.50, expeller $90, Minneapolis basis.

MALT SPROUTS

Cincinnati: Demand fair; trend steady; supply adequate; No. 1 $43.
Boston: Demand and supply limited; $42.50.
New Orleans: Demand fair; trend steady; supply adequate; $42@44.
Milwaukee: Demand good; supply fair; odd weights $36.50; even weights $38.50.
Chicago: Demand and supply fair; trend easier; No. 1 $36 and No. 2 $26, both uneven weight bags; bagged in cwt. from $1 @1.50 premiums.

MEAT AND BONE MEAL

Ogden: Demand firmer; supply normal; $110 in 100-lb. bags.
Portland: Demand steady; supply ample; trend unchanged; $2.10 a unit.
New Orleans: Demand good; supply ample; trend steady; $110@112.
San Francisco: Demand good; supply ample; $1.95 a unit of protein, plus $2.50 for sacks.
Los Angeles: Demand steady; trend unchanged; supply tight; 50% protein $2.05 a unit.
Denver: Demand good; trend very firm; supply below normal; 50% $105 truck lots, $107.50 small lots.
Cincinnati: Demand good; trend strong; supply fair; 50% meat and bone scraps $102.50, Cincinnati.
Omaha: Demand and trend steady; supply ample; $108.
Ft. Worth: Demand good; supply adequate; meat and bone, 50% $100@102.50, f.o.b. or delivered Ft. Worth.
Wichita: Demand moderate; supply sufficient; 50% $110, f.o.b. plant; 55%, no quotations, no offerings.
Boston: Demand and supply steady; $1.50 a protein unit; converted 50% $92.50.
St. Paul: Fair demand; fair supplies; trend steady; 50% meal $108@112.
Chicago: Demand fair; trend higher; supply light; 50% protein $100@105.
Kansas City: Demand very good; trend steady; supply dwindling as kills drop; 50% meat and bone scraps $105@107.50.
New York: Demand poor; trend lower; supply fair; 50% $90.50, 55% $98, bulk; 50% $93.50, 55% $101, sacked.
St. Louis: Demand good; trend up; supply tight; $113.
Louisville: Demand fair; trend firm; supply good; $105@115.
Buffalo: Demand fair; trend steady; supply ample; 50% meat scraps $100 bulk, $105 sacked.
Seattle: Demand good; trend firm; supply ample; 50% protein $107.50, ex-warehouse.

MILLFEED

Minneapolis: Shortage of flour mill production and good mixer demand moved prices upward, particularly for middlings. Little country trade reported; supplies a little tight for next week; bran $46.50, middlings $48.50@49.50, red dog $52.
Kansas City: Demand very good for both sacked and bulk; trend steady; supply tighter for sacked than for bulk; bran $41.50@42.25, shorts $46@46.75, sacked; bran $38@38.75, middlings $44@44.75, shorts $44.50@45.25, bulk.
Wichita: Demand heavy; supply adequate for bran, tight for shorts; basis Kansas City: bran $40.75@41.25, shorts $44.25@44.75; bran advanced $1 and shorts $1.75, compared with the preceding week.
Ft. Worth: Demand good; supply light; carlots, burlaps, bran $49.50@50, gray shorts $54@55; bulk middlings $50.50, nominal, delivered Texas common points; $2.50 @3 higher on bran, $3@4 higher on shorts and $3 higher on middlings, compared with previous week.
Chicago: Millfeed market came alive with a bang the middle of the week ending April 1 and prices were advanced rather briskly. Mill running time has not been stepped up appreciably and as result, when the demand showed such a pickup, offerings of millfeeds were inadequate and as a result there was a sharp step-up in prices all along the line. Quotations: sacks, bran $48.50@49.50, in bulk $45.50; standard midds., sacks $52.50@53.50 and bulk $49.50; red dog, sacks $53@54 and bulk $48.50.

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OREGON

Feeding, Management,

Omaha: Demand good; trend strong; supply tight; sacked bran $42; sacked gray shorts $46.50; bulk standard midds. $44.50, all Omaha basis.

Cincinnati: Demand fair; trend higher; supply adequate; bran and middlings $54.50.

St. Louis: Demand good; trend higher; supply limited; sacked, bran $47@47.50, shorts $51.50@52; bulk, bran $43@43.50, shorts $49.50@50, middlings $49@49.50.

Memphis: Demand fair to good; trend steady to higher; supply ample; wheat bran $49 sacked; gray shorts $52 sacked; standard midds. $49.50 bulk.

Boston: Demand cautious; supply spotty; bran $58, middlings $57.

Buffalo: Demand for millfeeds came mostly in dribbles last week, but the overall total was enough to send prices higher and hold the advance. Although the market firmed here, levels were sharply below western centers where turnover outdistanced the East. Both bulk bran and middlings ended $2 higher; sacked bran and middlings gained $1.50. Bulk red dog was up $2@2.50 and sacked advanced $1.50@2. Quotations April 1: sacked bran $50.50@51.50, bulk $46.50@47.50; sacked middlings $51.50@52.50, bulk $47.50@48.50; sacked red dog $53@53.50, bulk $48@49.50.

Philadelphia: Demand spotty; trend unsettled; supply fair; bran $56, standard midds. $57, red dog $59.

New York: Demand excellent; trend upward; supply fair; bran $59@59.50, standard midds. $60@60.50.

New Orleans: Demand fair; trend steady; supply adequate; sacked bran $50.50@51.25, shorts $53@53.75; bulk bran $46.50@47.25, shorts $49@49.75.

Louisville: Demand fair; trend strong; supply ample; bran $52.10, up $1.50; mixed feed $54.35, up $2.50; shorts $57.10, up $2.50; middlings $58.30, up $3.

Denver: Demand fair; trend steady; supply ample; shorts $47.75, bran $44.25, mill run $46.

Seattle: Demand fair; trend steady; supply limited; $46, common transit points, carlots.

Portland: Demand improved; trend higher; supply limited; $43.

Ogden: Supply normal; to Utah and Idaho: red bran and mill run $44, middlings $49; to Denver: red bran and mill run $51, middlings $56; to California: red bran and mill run $51.50, middlings $56.50, f.o.b. San Francisco and Los Angeles.

Los Angeles: Standard mill run $45.50@46 bulk, slow demand, weaker trend, adequate supplies; red bran $53@54, slow demand, firmer trend, ample supplies.

San Francisco: Demand good; supply tight; millfeed $49.50, red bran $55.

MINERAL FEED

Denver: Demand good; trend steady; supply ample; $155.

Ft. Worth: Demand good; supply light; all-purpose granules $90, block $97; mineral phosphorus 6% granules $105, block $110; cattle-sheep mineral 7% phosphorus granules $100, block $107; hog mineral phosphorus 3½% granules $87, phosphorus 2% $77 (all in 50-lb. paper bags).

Wichita: Demand moderate; supply sufficient; all-purpose with iodine, 50-lb. blocks $97.50, 100-lb. bags $92.50, f.o.b. plant.

Ogden: Supply normal; $113 in 50-lb. blocks; $103, granular, 50-lb. bag.

Portland: Demand slow; supply ample; trend unchanged; $42.

San Francisco: Demand steady; supply good; all-purpose with iodine $70.

Sioux City: 50-lb. mineral blocks 8.2% phosphorus $92; 7.5% phenothiazine sheep mineral blocks $4 each.

Seattle: Demand fair; trend steady; supply good; mixer mineral $48, ex-warehouse; all-purpose mineral $85, ex-warehouse.

MOLASSES

New Orleans: Demand fair; trend steady; supply adequate; 12¾¢ gal., tank cars and trucks; 600-lb. customers' drums $8.33.

San Francisco: Demand and supply good; $22, f.o.b. cars, Richmond, Cal.

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what's yours?

Ft. Worth: Demand good; supply sufficient; blackstrap 12½¢ gal., f.o.b. Houston; delivered Ft. Worth, truck $28.07 ton, seller's market price on date of shipment.

Milwaukee: Demand fair; supply good; blackstrap 12¼¢ gal., f.o.b. New Orleans.

Los Angeles: Demand good; trend unchanged; supply adequate; $22, bulk, f.o.b. tank cars; $22.25, bulk, f.o.b. tank trucks.

Denver: Demand fair; trend steady; supply ample; 12¢ gal., New Orleans; $20.50 ton, New Orleans.

Cincinnati: Demand fair; trend steady; supply adequate; 12¼¢ gal., New Orleans.

Boston: Demand steady; supply adequate; 16½¢ gal. in tank cars.

Buffalo: Demand and supply good; trend steady; 16½¢ gal., f.o.b. Albany, N.Y.

Seattle: Demand fair; trend easy; supply good; $22, f.o.b. Seattle, tank carlots or truck lots.

Atlanta: Demand practicaly nil; trend steady; supply ample; citrus $20@22.50, bulk, f.o.b. Florida producing mills.

Memphis: Demand poor; trend steady; supply ample; blackstrap 12¼¢ gal., tank car, f.o.b. New Orleans and $29 ton, delivered Memphis, truck.

Kansas City: Demand fair; trend steady to easy; supply adequate; 12¢ gal., tank car, New Orleans.

New York: Demand fair; trend steady; supply good; blackstrap 16¢ gal., tank cars, tank wagons, f.o.b. New York.

St. Louis: Demand fair; trend steady; supply ample; 12¢ gal., New Orleans.

Louisville: Demand slow; trend easy; supply normal; 12¢ gal., tank car lots, Gulf ports.

Minneapolis: Good demand for immediate shipment; ample supplies; price off to 12¢ gal., New Orleans; $33.50 ton, delivered, tank trucks.

NIACIN

New York: Trend steady; $8 kilo, 10-kilo lots; $8.20 kilo, 5- and 2½-kilo lots; $8.30 kilo, 1-kilo lots; freight prepaid or paid to destination.

OAT PRODUCTS

Ft. Worth: Demand slow; supply sufficient; oat millfeed $49.70; reground oat millfeed 4% protein, sacked $39; 3% $27.70.

Cincinnati: Demand poor; trend steady; supply adequate; pulverized white oats $49@51.50; rolled $83.

Philadelphia: Demand slow; supply fair; pulverized white $54.50; Canadian oat feed $31.50; domestic oat feed $26.

Boston: Demand spotty; supply irregular; white pulverized $57; reground oat feed $22.

Portland: Demand slow; supply ample; trend unchanged; rolled $65, ground $62, cleaned $65.

Los Angeles: Demand fair; trend unchanged; supply adequate; pulverized, local production $62.

Louisville: Demand slow; trend very unsettled but strong; supply ample; reground weak at $21.60, off $2.20; rolled oats strong $83.80, up $5; feeding oatmeal $78.30, up $2; pulverized white oats $52.80, up 50¢; crimped white oats $67.80, up 50¢.

Chicago: Demand very good; trend uneven; supply fair; reground oat feed $13.50; fine ground feeding oatmeal $69@70; feeding rolled oats $78@79.

Minneapolis: Demand slow; ample supplies; steady trend; feeding rolled oats $77; feeding oatmeal $67.50; crimped $55; pulverized $45.50; reground oat feed $18.

Seattle: Demand and supply fair; trend steady; $52 bulk, truck lots.

Memphis: Demand poor; trend weak; supply ample; 3⅛% protein, reground oat feed $19.25.

OYSTER SHELL

Louisville: Demand good; trend firm; supply normal; in 80-lb. paper $23.45; in 50-lb. paper $23.70; in 25-lb. paper $25.95.

Portland: Demand good; supply ample; trend unchanged; western $34, eastern $38.50, granite grind $26, shell flour $24.

New Orleans: Demand good; trend firm; supply ample; $23.50@24.

San Francisco: Demand fair; supply ample; local $15, eastern $26.

Los Angeles: Demand and trend steady; supply ample; $14.80.

Cincinnati: Demand fair; trend steady; supply adequate; $24.45.

Boston: Demand and supply steady; $26 in paper.

Seattle: Demand and trend steady; supply good; eastern $36, carlots.

PEANUT OIL MEAL

Milwaukee: Demand and supply fair; 26% $42.

Atlanta: Demand fair; trend steady; supply limited; 45% $62, f.o.b. southern Georgia and Alabama mills.

PEAT MOSS

Portland: Demand good; supply ample; trend unchanged; $3 bale.

Los Angeles: Demand and trend steady; supply ample; Canadian 6.1 cu. ft. bales $3.75.

Chicago: Demand good; trend steady; supply short; $3.85@3.95 standard 7⅛ cu. ft. bale.

San Francisco: Demand and supply fair; $3.65 bale.

Philadelphia: Demand good; supply fair; $2.95 bale, f.o.b. pier.

Boston: Demand and supply steady; $3.15 bale in carlots.

Seattle: Demand and supply good; trend firm; $2.80 bale, truck lots.

POTASSIUM IODIDE, U.S.P.

Chicago: Demand good; supply adequate; 90% KI stabilized with calcium stearate, 200 lb. in 100-lb. cartons $1.35; 100-lb. cartons $1.36; freight prepaid to destination.

Cincinnati: Demand good; trend steady; 90% KI in calcium stearate or carbonate mixtures, 250-lb. drums $1.35; 200 lb. in 100-lb. drums $1.35; 100-lb. drums $1.38; 25-lb. drums $1.41, Cincinnati.

POULTRY BY-PRODUCTS

Ft. Worth: Demand good; supply limited; 55% protein $112.50, f.o.b. north Texas plants.

Boston: Demand fair; supply tight; $108.

Los Angeles: Demand fair; trend firm; supply ample; $1.85 a unit of protein.

Salisbury, Md.: Good demand; limited supply; $102 bulk, f.o.b. plants.

Atlanta: Demand fair; trend steady; supply ample; $105.50, f.o.b. Georgia and Alabama producing mills.

RIBOFLAVIN

New York: Trend steady; feed grade (in feed supplements) 4½¢ gm. in 3.36 to 16 gm./lb. mixtures, freight prepaid or paid to destination.

Cincinnati: Trend steady; feed grade (in feed supplements) 4¢ gram in less than ton lots in 3.36 to 16 gm./lb. mixtures; 3¢ in ton lots or more; freight prepaid or paid to destination.

RICE BY-PRODUCTS

San Francisco: Demand good; supply ample; bran $45; polished $49.

Ft. Worth: Demand fair; supply moderate; carlots, rice bran $33@34, f.o.b. south Texas rice mills; hulls $2.50, f.o.b. mills.

Los Angeles: Demand fair; trend unchanged; supply adequate; bran, California production, high fat content $59.

Atlanta: Demand good; trend steady; supply very limited; bran $49.

SCREENINGS

Chicago: Demand slow; trend upward; supply adequate; ground grain screenings $37.50.

Ft. Worth: Demand slow; supply sufficient; ground grain $28.

Cincinnati: Demand fair; trend steady; supply adequate; malt house $26.40@30.40, Minneapolis; Canadian $39, bulk.

Minneapolis: Very little domestic material, Canadian supplies low; demand limited; all spot demand is tight; lights $10@20; mediums $21@30; heavies $31@40; Canadian bulk up $1 to $28.50; Canadian ground up $1 to $37.50; flaxseed screenings held at $35 and oil type flaxseed screenings held at $45, basis 15%.

SOFT PHOSPHATE WITH COLLOIDAL CLAY

Atlanta: $20.40@20.67.
Buffalo: $25.31@25.45.
Chicago: $24.77@24.90.
Cincinnati: $23.47@23.60.
Des Moines: $25.23@25.35.
Kansas City: $24.88@25.
Memphis: $22.20@22.47.
Minneapolis: $25.92@26.06.
Philadelphia: $24.32@24.95.
St. Louis: $24.14@24.27.

SORGHUMS

Ft. Worth: Demand good; offerings light as most stocks are under government loan; carlots, bulk, No. 2 yellow milo $2.39@2.41, delivered Texas common points.

Los Angeles: Demand and trend steady; supply ample; milo $2.52½ cwt., bulk.

SOYBEAN OIL MEAL

Louisville: Demand slow; trend strong; supply light; $70.20, up $4.

St. Louis: Demand fair; trend firmer; supply ample; 44% $67.50.

Kansas City: Demand slower after active period earlier in the week; trend steady; supply adequate; meal for Kansas City and western shipment $54.50@55, bulk, Decatur; unrestricted $57@58.

Chicago: Soybean oil meal staged a still further rally during the week ending April 1. Apparently many buyers who had not been heard from for some time past came back into the market and found offerings anything but pressing. Central states handlers and mixers were good takers and prices moved up a couple dollars per ton with little or no resistance on the way up. In the meantime, the futures market got somewhat more on a one-way street and new high marks for the season were scored April 1 on all bean meal futures at Chicago with May and July both edging through the $59 level by five points but not quite able to maintain the full extent of the recovery. More talk about a strong possibility of 90,000,000 bu. of soybeans moving into export channels this season, coupled with the fact that the movement of soybeans from first hands is not at all commensurate with the size of the all-time record high crop that was harvested last year apparently were some of the items that triggered the advance in meal this week. Quotations: 44% protein soybean oil meal, bulk, unrestricted, basis Decatur $57@57.50; eastern restricted $55.50@56; 50% bulk, unrestricted $62.50@63; eastern restricted $60.50@61.

Ft. Worth: Demand fair; supply sufficient; carlots: southern origin, 44% April $71, May-September $72.50; truck $73.50; 50% April $81.50, May-September $82.50@83.

Ogden: Supply average; $81@86.

Portland: Demand moderate; trend unchanged; supply ample; $49, f.o.b. Decatur.

New Orleans: Demand fair; trend steady; supply adequate; $65@66.

San Francisco: Demand good; supply ample; $82.46.

Milwaukee: Demand good; supply fair; $55, bulk, Decatur.

Los Angeles: Demand slow; trend firmer; supply ample; $78.90@79.90 bulk.

Denver: Demand fair; trend firmer; supply ample; $59.20.

Cincinnati: Demand poor; trend higher; supply adequate; $56.50, bulk, Decatur.

Omaha: Demand fair; trend strong; supply tight; 44% $63.90, bulk.

Minneapolis: Good demand for reduced supplies brought a $1.50 ton raise during the week for 44% meal for Minnesota shipment; quotations April 2: 44% $51.50, bulk, Decatur; 50% up $2.50 to $59.50, bulk, Decatur, for shipment into Minnesota.

Atlanta: Demand fair; trend steady; supply ample; 44% $72.60.

Buffalo: Demand fair; trend steady; supply fair; ground in sacks $44.50, New York; unground in bulk $36, New York.

Seattle: Demand fair; trend firm; supply ample; $82, carlots.

Memphis: Demand good; trend steady to higher; supply ample; prime 44% solvent $65, f.o.b. Memphis.

TANKAGE

Louisville: Demand fair; trend steady; supply good; 60% $110@120.

St. Louis: Demand good; trend up; supply tight; $115.

Chicago: Demand and supply fair; trend easier; 60% protein $102.50@107.50 in 100-lb. bags.

Kansas City: Demand good; trend steady; supply adequate; 60% digester $108.50@110.

Cincinnati: Demand fair; trend strong; supply ample; 60% digester $112.50, Cincinnati.

New Orleans: Demand fair; trend steady; supply adequate; $119.50@120.

Omaha: Demand and trend steady; supply ample; $112.

Ft. Worth: Demand fair; supply very scarce; 60% digester $105@107, Ft. Worth.

Wichita: Demand moderate; supply sufficient; 60% $115, f.o.b. plant.

St. Paul: Demand and supply fair; steady trend; 60% digester $109@111.

VEGETABLE AND ANIMAL FAT

Ft. Worth: Demand good; limited offerings; 6⅞¢ lb., f.o.b. north Texas area.

VITAMIN E FEED SUPPLEMENT

New York: Demand and supply good; trend steady; 100-lb. drums $1.50 lb., 25-lb. drums $1.55 lb., f.o.b. manufacturing plants, freight allowed and goods insured to destination.

Rochester, N.Y.: Demand and supply good; trend steady; 100-lb. drums $1.50 lb., 25-lb. drums $1.55 lb., f.o.b. manufacturing plants, freight allowed and goods insured to destination.

Cincinnati: Demand good; trend steady; any quantity in 100-lb. drums $1.50; in 25-lb. drums $1.55; freight allowed to destination.

WHEAT GERM MEAL

New Orleans: Demand fair; trend steady; supply fair; $86@88.

Buffalo: Demand fair; trend higher; supply fair to poor; commercial grade $83, f.o.b. Buffalo.

Chicago: Good demand; tight supplies; firm trend; $88.

EASTERN STATES

(Continued from page 1)

keting division to assume the marketing functions now conducted by the several cooperatives. The exchange will absorb all assets and liabilities of the other cooperatives, and will honor all commitments of those marketing organizations as provided in the agreement voted upon. The agreement is identical for all cooperatives concerned.

Present Egg Supply

Mr. Milsop went on to say that poultry farmers who supply eggs to the various cooperatives are urged to continue without interruption. "At the effective date of the merger as it involves the present egg marketing cooperative—not necessarily the same date for them all—farmers will receive payment for eggs directly from Eastern States," he explained.

"Eastern States, through its new marketing division, will honor present egg marketing agreements and producer contracts among the cooperatives to their normal expiration dates. A uniform payment basis is now being developed.

"The merger agreements carefully protect the equity held by the members of the various cooperatives. It guarantees that all having equity in the merged organizations will be reimbursed in full. Payments will be made by Eastern States directly to the individuals.

"The poultrymen are under no obligation to use any Eastern States poultry feeds or other supplies. Egg suppliers will acquire membership in Eastern States Farmers' Exchange through the marketing division and will share in whatever benefits that provides.

"All personnel of the various cooperatives, including the managers, will become employees of Eastern States. Although all present facilities will be operated for a time, it is certain that in time the number of egg processing facilities will be reduced."

Mr. Milsop declared that although New England does not produce as many eggs as it consumes, New England eggs have frequently been at a disadvantage in the market. "This is primarily because no egg marketing organization in New England has had enough quality eggs to satisfy all requirements of buyers for major chain stores. Hence these buyers have been taking more and more eggs from the South and Midwest," he said.

Participating Cooperatives

The five cooperatives which have voted to merge with Eastern States are: Brockton Cooperative Poultry Producers, Inc., Avon, Mass.; Connecticut Poultry Producers, Inc., Hamden, Conn.; Eastern Connecticut Poultry Producers, Inc., Providence, R.I.; New Hampshire Egg Producers Cooperative, Derry, N.H., and Connecticut Farmers' Cooperative Assn., East Hartford, Conn.

Springfield (Mass.) Cooperative Auction Marketing Assn. will vote April 11. Members of the Willimantic (Conn.) Poultry Assn., Inc., will vote April 13. The eighth association which participated in the merger plans, Hamden (Conn.) Cooperative Poultry Auction, Inc., has not set a date for a merger vote.

Chicks Placed in Principal Broiler Areas

KHAPRA BEETLE

(Continued from page 6)

approximately 18¢ with material in Cuba or Puerto Rico costing 11¢.

"This means that certain molasses distributors in the U.S. have improved

AFMA

(Continued from page 1)

"Earlier plans were a natural development by industry seeking better business procedure for the feeder, dealer and manufacturer. They stemmed price guarantees, meaningless contracts and unusually long-term bookings."

Chairman's Statement

I. S. Riggs, chairman of the AFMA board and vice president, the Quaker Oats Co., said, "Support of the principles outlined in our new AFMA Feed Merchandising Plan offers an opportunity and a challenge to all of us. It can be instrumental in maintaining and improving business practices and ethics in our industry.

"Today, more than ever before, the focus of public attention is on our industry. Our rapid growth and position of leadership among those industries serving agriculture has been accompanied by mounting problems of businesslike operation. If we are to maintain self-respect and respect of our customers and other publics, we must be willing to meet responsibilities and obligations—both individually and collectively."

Mr. Riggs concluded, "The sanctity of contractual obligations is a cardinal principle in the conduct of business. Its observance is essential to the future growth and stability of our industry. Abrogation of this principle can undermine the very foundations of sound business practices. I strongly urge every feed company to support the AFMA Feed Merchandising Plan. I believe our industry needs this type of a program and is ready and willing to accept the opportunity and responsibility."

APHF

(Continued from page 1)

likely that a nation-wide appeal for a cutback would win much support.

"A cutback, unless accompanied by the removal of old breeder hens from supply flocks, would produce only minute relief.

"There are several extremely large operators in the broiler chick business who account for a heavy percentage of the eggs now being set. They know very well how to correct the situation in their own plants, and it should not be necessary for the rest of the industry to pull their irons from the fire for them.

"Unless action is taken by these firms to pull in their oars, it looks like the broiler market will show little or no improvement deep into summer.

"On two occasions in the past, an APHF appeal for a nation-wide cutback met with good response from the people who have the industry's welfare at heart. More selfish individuals moved in and took full advantage of the situation. Perhaps now is as good a time as any to cry 'no quarter'!"

BRAND NAMES

(Continued from page 1)

graphic sections, similar plans were tried along industry segment lines—the processor, the grower, the hatcheryman, the feed man, or the breeder. But in all such endeavors, he said, the battle for survival going on in the broiler industry today seems to bear a direct relationship to the battle for survival between nations, for "the armaments race has much of the earmarks of the chicken business."

Firmly identifying the function of sales and promotions as one of the most powerful tools for survival, he said that chicken, because of all its natural advantages in the diet, its low cost and its year-round availability, will become a leading staple in the nation's diet, perhaps surpassing all other meats. The development, he added, can be hastened along greatly by means of a concerted promotional effort.

With the development of retail brands, he said, it will become easier for integrated operators to apply their promotional skills and facilities to an end product which can be adjusted to meet the demand. Freezing, packaging, and storage techniques will also help, he said.

In the 1960's, he concluded, the broiler industry will probably have a much different appearance from its familiar look of today but, in all probability, it will emerge on a more sound and sensible footing, with a great deal more stability.

EGG PRICES

(Continued from page 1)

Egg prices at the farm, however, at least in the Midwest, are no lower than they were in the spring of 1957, egg buyers reported. Two firms with quality programs said they have not paid less than 24¢, the same price as was paid at the low point in 1957.

Production Cost

There was some question whether there was any profit for producers at some of the low prices.

A feed industry representative said average production costs for a dozen eggs in the Midwest would be about 24 to 24½¢ without considering labor.

The U.S. Department of Agriculture report showing farmers' intentions in February indicated there would be about 1% less egg type chicks purchased than last year. However, there are indications now of a greater cutback in replacement birds.

As of Feb. 15, the egg-feed ratio was set at 10.4, compared with 11 a year earlier. One observer pointed out that it is interesting to note that as a result of unusual weather conditions in late February and early March last year, the ratio went to 12. Paradoxically, in March of this year, when weather was also bad, the price sagged off.

In the Midwest, one egg buyer who buys primarily from smaller flock owners, said he sees a repetition of 1957 when his producers cut back on replacement buying and kept their old hens and didn't feed as well.

Hatchery Business Off

"The hatchery business around here is lousy," he said.

The latest egg-feed ratio reported by the U.S. Department of Agriculture for the west north central states was 9.9 on March 15. This was based on a poultry ration cost of $2.81 cwt. and egg prices of 27.9¢. Since then the price of feed has increased and the price of eggs has dropped.

In the spring of 1957 (May), the egg-feed ratio dropped to 8.2. That was the lowest point since a ratio of 8.0 in March, 1952.

Continued low prices are expected through coming months. The USDA has predicted that monthly egg production throughout the year is likely to exceed 1958 even if hatchings are reduced this spring.

New Borden's Manager For Plant at Waterloo

WATERLOO, IOWA — Joseph Schmicher has been named manager of the Waterloo plant of Borden's Soy Processing Co., a division of the Borden Co., according to an announcement by Charles Livingston, director of production and engineering.

Mr. Schmicher joined the Borden Co. in 1943. Since that time he has served as traffic manager for Borden's Soy Processing Co. and the feed supplements department, as well as trader for the Waterloo plant. He will continue these activities.

In his new post, Mr. Schmicher replaces Paul J. Queroli, who died Feb. 8 after more than 40 years service with the Borden Co.

OREGON

(Continued from page 8)

market, the situation has worsened considerably."

It was indicated that the controversy became known to the general public in Oregon with the recent announcement that the Washington co-op had acquired land to build a new feed mill on Swan Island at Portland. The association's letter said: "As far as the Oregon feed industry is concerned," the situation began in November, 1957, "when the Washington co-op purchased the Bridgmon Bros. processing plant and established their integrated program."

The letter said the Washington group paid a pool price for broilers to growers "that was equivalent to the existing market price" and then sold to the market at the wholesale level "below their costs." It said this action "forced the independent processors to reduce their price to broiler growers, while the Washington co-op absorbed its own losses in the program."

Further Comments

It was also stated in the letter to the newspaper's agriculture editor that Oregon producers joined the Washington co-op "in order to maintain and assure themselves of a market outlet, because there were no other available processors remaining in the Portland area capable of handling large flocks."

The Oregon association said its independent and cooperative feed mills "have at all times cooperated with the growers to finance, promote and market birds. The Oregon industry boasts ample, modern and efficient feed mills with ample capacity to supply all feed needs for the industry at fair and competitive prices."

Mr. Hays reported in statements made separately from the letter to the newspaper that the Oregon group "is ready to make an all-out effort to halt the domination" by the Washington cooperative.

Pfizer Sales, Earnings Reach New High

NEW YORK — Sales and earnings of Chas. Pfizer & Co., Inc., last year were the highest in the pharmaceutical and chemical company's 110-year history, according to the annual report mailed to share owners March 24.

World wide sales amounted to $222,726,103, up 7½% over the 1957 total of $207,151,629. The 1958 total represented the ninth consecutive annual increase and brought the volume to a level 4½ times that of 1949.

Net earnings rose 4½% from $22,908,544 in 1957 to $23,965,144. Profits per share of common stock after payment of preferred dividends were $4.43, against $4.22 in 1957. Common shares outstanding at the end of both years totaled 5,371,976.

Dividend payments on the common stock were $2.25 per share in 1958, compared with $2.10 the year before. This was the eighth successive increase in the dividend disbursement.

The 20-page 1958 Pfizer annual report, entitled "Pfizer in Focus," has been published in the format of a Sunday newspaper supplement and will appear as a special section of the New York Times April 5. "Pfizer in Focus" is the third consecutive annual report Pfizer has published and distributed in this manner.

According to the report, all four domestic divisions—Pfizer Laboratories, J. B. Roerig & Co., agricultural sales and chemical sales—and the international subsidiaries reached new sales peaks in 1958. The company-wide record volume of $222.7 million was achieved "despite the lowest recorded prices for penicillin, streptomycin, steroids and most bulk vitamins."

Feeding, Management, Marketing Discussions Planned at Nebraska

LINCOLN, NEB.—Cattle feeding, management and marketing will be discussed at the annual Feeders Day to be held April 17 at the University of Nebraska College of Agriculture here.

Stockmen attending will hear results of 10 different studies conducted at the college and may inspect cattle being used in several studies now in progress.

Guest speakers at the meeting will be Dr. P. H. Stephens, Farm Credit Administration, Wichita, Kansas, and Dr. V. James Rhodes, associate professor of agricultural economics at the University of Missouri, Columbia, Mo.

Staff members from the University of Nebraska will also speak. Scheduled for the program are the following: "The Effect of Drying Corn at Different Temperatures on Feeding Value," Morris Hemstrom; "Dehydrated Alfalfa Pellets as a Supplement for Fattening Calves" and "Feed Additives, Stilbestrol and Hormone Implants for Fattening Calves," Dr. John Matsushima; "Wintering Calves on Sorghum Silage," "Tranquilizers in Sheep Rations" and "A Comparison of Roughages for Fattening Steers," Dr. Donald C. Clanton; "More Efficient Cattle for Corn Belt Feed Lots," Dr. Robert M. Koch.

Following an inspection of cattle being used in various experimental studies, the stockmen will hear a report on "Pelleting Rations for Fattening Cattle" by Dr. Clanton.

Other topics on the morning program will include "Wintering Calves on Different Protein Levels," by Dr. Matsushima, and "Pelleting Low Grade Roughage for Wintering Calves" by Dr. Marvel Baker and Dr. Turgut Goksu.

At the close of the afternoon program featuring Dr. Rhodes and Dr. Stephens, there will be a meeting of the Nebraska Livestock Breeders & Feeders Assn.

Rail Rate Parity Action in Oregon

SALEM, ORE.—J. C. Hill, Oregon public utilities commissioner, has announced he has taken action which will permit the railroads to publish carload rates placing intrastate movement of grain and grain products on a parity with interstate shipments.

An order was issued removing those items from a tariff suspension.

Mr. Hill continued the suspension period for another six months or until Oct. 7 on the supplement of the tariff of increased rates and charges, filed Nov. 17 on Oregon intrastate rail traffic.

The original suspension, pending hearing and determination of the reasonableness of proposed rates, would have ended April 7.

The Oregon Public Utilities Commission has held the proceeding in abeyance pending outcome of a proceeding before the Interstate Commerce Commission on intrastate rates in Oregon.

The railroads had requested the modification of the suspension order to allow grain, grain products and grain by-products and other articles taking grain rates, to receive ex parte increases.

Cincinnati Club to Meet

CINCINNATI—Gilbert F. Martin, sales promotion manager, Morton Salt Co., Dayton, Ohio, will be guest speaker at the regular monthly meeting of the Cincinnati Feed Club April 13, in Stein's Hide-A-Way Restaurant. He will illustrate his talk on the historical role of salt and its significance today with a sound, color film titled "The White Wonder."

tinues on the slow side with no indications of improvement within the near future. Although there are good

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Chicks Placed in Principal Broiler Areas

(000's omitted)

Week ending:	Maine	Conn.	Penn.	Ind.	Ill.	Mo.	Del.	Md.
January 24	1,274	594	753	730	114	723	1,978	1,746
January 31	1,280	574	709	639	181	738	2,111	1,741
February 7	1,286	648	778	613	120	800	1,837	1,902
February 14	1,272	668	724	744	130	848	2,063	1,776
February 21	1,229	606	737	877	168	865	1,769	1,967
February 28	1,154	601	843	816	176	829	1,927	1,814
March 7	1,194	501	835	765	197	849	1,962	1,941
March 14	1,255	596	962	783	197	821	1,851	2,046
March 21	1,243	519	787	873	154	883	2,051	1,886
March 28	1,231	496	690	961	183	845	1,931	2,084

Week ending:	Va.	W. Va.	N.C.	S.C.	Ga.	Fla.	Ala.	Miss.
January 24	1,058	537	2,659	290	5,742	198	2,884	2,025
January 31	1,101	532	2,846	316	5,943	178	2,964	2,059
February 7	1,094	572	2,932	363	6,233	236	3,104	2,046
February 14	1,168	580	3,084	404	6,270	205	3,263	2,109
February 21	1,129	586	3,070	373	6,419	239	3,202	2,302
February 28	1,269	700	3,214	360	6,626	246	3,228	2,308
March 7	1,295	680	3,143	357	6,888	263	3,278	2,469
March 14	1,326	625	3,164	437	7,094	232	3,708	2,408
March 21	1,219	731	3,384	377	7,305	239	3,514	2,593
March 28	1,273	678	3,376	379	7,440	216	3,661	2,609

Week ending:	Ark.	La.	Texas	Wash.	Oregon	Calif.	Total 22 areas 1959	Total 22 areas 1958
January 24	2,998	397	2,227	342	274	1,118	30,356	28,539
January 31	3,172	433	2,136	375	205	1,108	31,343	28,826
February 7	3,044	396	2,127	339	240	1,074	31,573	29,209
February 14	3,276	412	2,214	382	215	1,163	32,756	29,495
February 21	3,377	511	2,242	393	234	1,100	33,258	30,253
February 28	3,392	509	2,178	343	283	1,164	33,787	30,270
March 7	3,580	450	2,471	345	267	1,176	34,722	30,406
March 14	3,713	575	2,419	363	301	1,068	35,944	29,863
March 21	3,822	494	2,271	356	257	1,165	36,123	29,291
March 28	3,761	505	2,475	350	246	1,213	36,603	30,134

IODINATED CASEIN

(Continued from page 6)

The basal ration was described as "an exceedingly simple, low cost ration which has been shown in previous experiments to produce good growth and efficiency of feed utilization, but a fairly high level of carcass fat in market ducklings that received this ration throughout the complete growth period." The ration contained 16.1% protein, 3.26% fat, 2.65% fiber, 1.5% calcium, .84% phosphorus, and 1,358 Calories of metabolizable energy per pound, with an ME/P ratio of 85.

Iodinated casein (Protamone) was added to the basal ration at levels of 50, 100, 150 and 200 gm. per ton. The same rations were used for both the starting and growing periods.

A summary of the results follows:

Growth. Average weights in the six experiments at 7 to 8 weeks of age for the basal ration and the 50, 100, 150 and 200 gm. Protamone levels were 6.6, 6.9, 7.0, 6.9 and 6.7 lb., respectively. The report noted that Protamone at levels of 50 to 150 gm. promoted a "marked increase" in growth. At the 100 gm. level, the additive increased growth over the basal in five out of the six experiments. In three of the tests, the response was more than .6 lb. increase in average live weight at eight weeks of age.

Feed Efficiency. Efficiency of feed utilization was improved by all levels of Protamone supplementation, but the improvement was slight and may not be statistically significant. For ducks on the basal ration and four levels of iodinated casein, average pounds of feed per pound of live duck were 3.28, 3.15, 3.22, 3.17 and 3.19, respectively.

Feathering. Scoring by an expert feather grader without knowledge of the treatments involved showed that addition of Protamone at 100 gm. or more per ton produced a "marked improvement" in the feathering of the ducklings. Ducks receiving 100 gm. or more were completely feathered three to four days sooner than those on the basal ration.

Market Finish. Processors graded the market finish as soon as the ducklings were picked and while still on the processing line. Market finish was rated "excellent" for ducks fed 100 gm. or more of Protamone per ton. It was "fair" for those on the basal ration and "good" for those getting the 50-gm. level.

Carcass Fat. The researchers noted that while it has been possible thus far to analyze only five ducks from each lot in the first two experiments, results of these analyses indicate that addition of Protamone produced a "marked effect" upon carcass fat content. Carcass fat content for birds on the basal ration and the four levels of Protamone averaged 32.8, 30.1, 28.7, 27.6 and 27.8%, respectively.

"The ducks that received 100 gm. of Protamone per ton of ration," said the researchers, "contained 10 to 15% less fat than those that received the basal ration. The oven-ready carcasses of these ducks presented a much firmer appearance than was observed in the carcasses of the ducks receiving the basal ration."

SOYBEAN

(Continued from page 6)

ly favorable, but probably will not advance sharply later in the feeding year as they did in 1957-58.

The anticipated 1958-59 cottonseed crush of 4,400,000 tons would produce, according to USDA, about 1,500 million pounds of crude cotton oil and nearly 2,100,000 tons cake and meal, compared with 1,436 million pounds of oil and 1,956,609 tons meal last year.

Some crushers had a short operating season in 1958-59 because cottonseed production in 1958 was relatively small compared with former years. USDA said crushing capacity of the industry exceeds the available supply of cottonseed and some mills this spring may process soybeans in order to utilize their facilities more fully. USDA believes that the number of mills who do this will depend mainly upon the price spread between the cost of beans and the market price of soybean oil and meal.

Linseed Meal

The outlook for linseed meal prices over the next several months is more favorable than for oil due to the continuing strong demand for high protein feeds. Linseed meal prices (bulk, Minneapolis) rose sharply from about $50 ton last fall to a peak of $76 in January, then slipped to $75 ton in mid-March, about $24 above March, 1958. USDA said prices this spring and summer probably will continue strong reflecting increases in livestock numbers along with increased feeding of high protein meals. Furthermore, said USDA, the supply of linseed meal may not be as large as last year due to a low level of flaxseed crushing.

Based on estimates of commercial crushing and exports, stocks of flaxseed July 1 will be about 17 million bushels, compared with 6 million the previous year. Most of these stocks will be in the hands of CCC. However, any CCC disposal of 1958 flaxseed between April 1 and July 1, 1959, will reduce the estimated carryover.

Crushings of flaxseed July-February, 1958-59, totaled about 16.4 million bushels compared with 20.4 million a year earlier.

KHAPRA BEETLE

(Continued from page 6)

Paso County, where khapra beetle infestations were said to have been found in 15 locations. This action reportedly came at the same time New Mexico's governor suggested possible closing of his state's southern border.

Gus Krueger, inspector-in-charge, Texas Department of Agriculture, said equipment to fumigate entire premises in El Paso County is scarce and is being assembled from California and Mississippi to combat the grain-destroying insect. He said it is expected that it will take at least two months to clear the El Paso area's known infestation spots.

In New Mexico, W. F. Wyman, comptroller, New Mexico State College, told the state finance board a new infestation of the khapra beetle had spread into Luna, Dona Ana and Sierra counties, with 11 known infested places as determined by the State Department of Agriculture. He said all infestation spots were quarantined immediately and were being fumigated.

MOLASSES

(Continued from page 7)

not less than 48% and the Brix, by double dilution, is not less than 79.5°."

Wide variation in moisture and sugar contents of molasses with the same degrees Brix was indicated by the report in a statement that in nine samples with 78.8° Brix, the moisture content ranged from 23.9 to 29.7% and sugar content ranged from 43.5 to 52%. Several of the samples collected by the Texas station for the study did not reach the prescribed 79.5° Brix required by the Feed Control Officials.

Mr. Teeter's Comments

In commenting on these statements, Mr. Teeter said, in part:

"Although theoretically sound, moisture and total sugar standards are not a practical, economical solution to the problem. Probably as much as 90% of our supply comes from a multitude of offshore producers of molasses who could hardly agree with the variety of restrictions which importers would have to impose on the supply.

"The principal nutrient in molasses is carbohydrate, but it is not as important to the feed manufacturer as this report makes it out to be, regardless of the results of biological assays. Molasses is purchased primarily for odor, palatability and binding qualities. The carbohydrate factor is secondary since carbohydrates can be purchased generally cheaper in the form of grains, eliminating the special equipment and cumbersome handling that sometimes associates itself with molasses.

"Commingling of supplies by a distributor is necessary, due to the multitude of points from which the material originates, and would mean that each tank car or truck of molasses that was shipped out would have to have an analysis for moisture and total sugars. The margins in the molasses industry are too narrow to absorb this additional expense. Furthermore, the equipment necessary for carrying out such tests is complicated and not accurate.

"Emphasis is being placed upon a better product at the best possible price. Certainly the biggest aid that has been given to the molasses industry in the past few years has been completely overlooked. The distributors have in the past five or six years so streamlined transportation activities on molasses that where in 1950 with an interior Puerto Rico mill price of 4.5¢ gal., we had a delivered price by tank truck to a small feed mixer in Iowa of 22.3¢ gal.; we now make delivery to this same point for approximately 18¢ with material in Cuba or Puerto Rico costing 11¢.

"This means that certain molasses distributors in the U.S. have improved transportation facilities to the point where there is a saving of between $10 and $15 ton to the user as compared with 1950 costs. This makes for a better market for the producer and a cheaper product with efficient handling services on the consumer end. What efficiency and savings are being set up through all of the work that was entailed by this project? (Figures for this analysis were taken from "Marketing Industrial Molasses," December, 1951, Agriculture Information Bulletin 82; and current markets are based on last year's prices at mills and current delivered market prices).

"The 'low brix' samples picked up by the Texas Feed Control Service in over half the cases actually fall below the present guaranteed minimum of 79.5° brix and if some resellers can't be depended upon to be honest under the present basis, I am fearful that great confusion could result if the tests were more complicated.

"A prominent testing laboratory has indicated to us that the cost of a total sugar test would be too high to make it practical and added further that a moisture test was not at all reliable on molasses because of the ease of dehydration and decomposition of some of the sugars."

Puerto Rican Molasses Sale Contract Reported

NEW ORLEANS—Molasses Market News, publication of the U.S. Department of Agriculture grain division here, reported this week that Puerto Rican molasses producers have contracted to sell 1.4 million gallons of blackstrap at 10½¢ gal., gross price at port.

Other Puerto Rican producers have contracted to sell 1.2 million gallons to local alcohol distillers at 10½¢ gal. f.o.b. mill, but information was not available to convert the price to gross price at the port.

The publication also reported that Cuban blackstrap molasses production amounted to 64.8 million gallons from Jan. 1-Feb. 28. This is an increase of about 35 million gallons over the amount produced by Feb. 15. Production of blackstrap per short ton of sugar averaged 44.5 gal. during the first two months of the calendar year.

MARKETS

(Continued from page 2)

Animal tallow rose to 7½@7⅝¢ lb. but lost ⅛¢ of the rise.

Soybean oil meal was very strong with 44% soy advancing $3 and 50% soy gaining a like amount. Linseed oil meal is showing signs of weakness. Gluten meal was unchanged.

Meat scraps turned strong and rose $2.50 to $5. Fish meal was steady.

Hominy showed a little strength and gained 50¢ to $1. Brewers' grains held up very well but are expected to slump in a couple of weeks. Alfalfa meal and gluten feed held steady.

Bran and middlings moved higher on small but constant demand.

Running time of formula feed manufacturers rose to an average of 44 hours last week, with the increase compensating for the Easter Monday holiday.

Southeast

Broiler feed business was a little better this week. Many of the feed manufacturers look for excellent business to begin about three weeks from now. This is attributed to the fact that with the greatly increased number of placements on the farm and with larger chicks, more feed will be consumed.

The north Georgia broiler market remains unchanged at 16¢ lb. f.o.b. farms, which is still causing present sales to bring no profit.

Dairy and cattle feed business con-

tinues on the slow side with no indications of improvement within the near future. Although there are good supplies of corn in the Guntersville, Ala., and Chattanooga terminals, prices have advanced about 4¢ this week, causing the asking price to be between $1.46 and $1.47 bu. in the Gainesville, Ga., area. Truckers bringing corn in from the Midwest continue to sell at around $1.41 bu. in this area.

Cottonseed meal and soybean meal prices remain practically unchanged and most feed ingredient buyers continue to purchase their requirements of the major proteins on a hand-to-mouth basis. Demand for citrus pulp in the South continues good. Unfortunately, the price of fresh fruit in Florida is so high that many canners are unable to pack single strength juice, which is reducing the availability of peel for citrus pulp. Many of the processors of citrus pulp are fearful that they may be oversold for the season.

Central States

At the risk of creating an overstuffed phrase, it can be said that for the week ending April 1, the mixed feed situation in the Central States is a decidedly mixed one. Some manufacturers of formula feeds in this section say that both sales and production are going along at a much better pace than was the case a few weeks ago, while others advise that things are more or less "status quo."

The sharp runups in the price structures for both millfeeds and soybean meal have had some impact on the situation, and still another has been the continued decline in the corn-hog ratio. Hog feed trade has been uniformly good and demand for cattle feed has been holding up, but not showing any betterment for the week. After having been backward for some weeks, poultry feed business has begun to come alive to an encouraging degree.

South Central

"We are moving more formula feed than we were a week ago," a feed manufacturer reports, "but sales volume during March did not jump up like we thought it would." Other mill spokesmen repeat the same complaint. "Business is pretty good," they say, "even better than a year ago, but we haven't gotten the big surge of business that we always expect in the spring."

The most disturbing element is the late opening, slow improving chick starter season. All of the rest of the feeds are turning in pretty good records. Most mixers express satisfaction over the amount of layer feeds moving, as well as pig and hog feeds. Some even call attention to a substantial total of cattle feed shipments. But nearly all are dissatisfied over their lagging chick starter sales.

Most generally mentioned as the cause of the slow starter movement is the disappointing returns being received from poultry products. On the other hand, returns from hogs are much more encouraging to producers. Hog prices are averaging just a little above the low point reached in February. Even a small rise is gratifying since producers had been concerned over the ability of hog prices to ward off severe declines during this period of heavy market supplies.

Mills are generally getting in a full week. Most plants operate five days with one shift, a few are on a two shift basis.

Ohio Valley

The trend toward increased tonnages of formula feeds, noted last week, is continuing at an accelerated pace, area manufacturers reported this week. The principal factor was said to be the steadily improving weather, serving as an incentive to speed spring farm activities, which have been delayed several weeks beyond their normal period.

While most area mills operated only four or five days last week because of the Good Friday holiday, six-day operations, with some overtime in a number of plants, were scheduled for this week to keep pace with the improving demands for all types of feeds, especially for chick starters.

This favorable situation is expected to continue well into this month because of the likelihood that pasturage in the valley area will not be available before mid-April, at least. During this period, farmers will be forced to depend on formula feeds and such reserve stocks of last fall's harvest crops as remain available.

Although seasonal demands for poultry and eggs declined sharply this week, as expected, offerings continued light with local requirements being met by supplies brought in from outside areas. This indicates, according to several manufacturers, that a considerable increase in egg settings is to be expected during the weeks immediately ahead.

Mountain States

Business this week has remained about the same as the previous week. However, it is up a good deal from the same time a year ago.

Feeds getting the demand in this past week have been for drylot cattle feeds. Demand has increased a great deal from the previous week.

Most of the feed being purchased in this area is still for immediate sale.

Pacific Northwest

Pacific Northwest feedstuffs market quotations were mostly unchanged during last week's moderately active trading which was marked by $4 ton higher listings for soybean meal and a 50¢ ton advance for whole corn at Portland and Seattle.

Mixers reported that feeding requirements were maintained with improved buying interest noted during the past week for some important items. Most feed mixers reportedly bought most of their needs for the next 30 days in the face of generally adequate offering of most ingredients.

Wheat millfeed markets developed a steady to firm trend under the influence of an improved demand and continued limited offerings of feed on a prompt delivery basis.

Trade sourcees indicated that formula feed sales remained good with volume movement of all poultry starters, egg mashes and dairy feeds. Pasture utilization throughout Oregon and Washington continued to be restricted by heavy rain showers.

Pacific Northwest alfalfa trading remained slow, but quotations were maintained at the previous week's levels. Good quality hay, comparable to No. 2 green alfalfa moved within a $30-32 ton range, delivered, baled at Seattle and Portland, with top quality offerings selling to Seattle and Portland feeding district dairymen and retail outlets to $35 a ton, baled.

A post-Easter lull in the consumer demand for an increased egg supply cut producer paying prices by 1 to 4¢ doz. at Seattle and Portland and placed them at levels that were from 4 to 11¢ doz. lower than one year ago with AA large posting the most decline.

Portland dealers at the close of trading were quoting producers AA large eggs within a 29 to 32½¢ range with A large valued at 27 to 30½¢ and AA mediums at 25 to 27½¢. AA small were down to 23 to 25½¢ doz.

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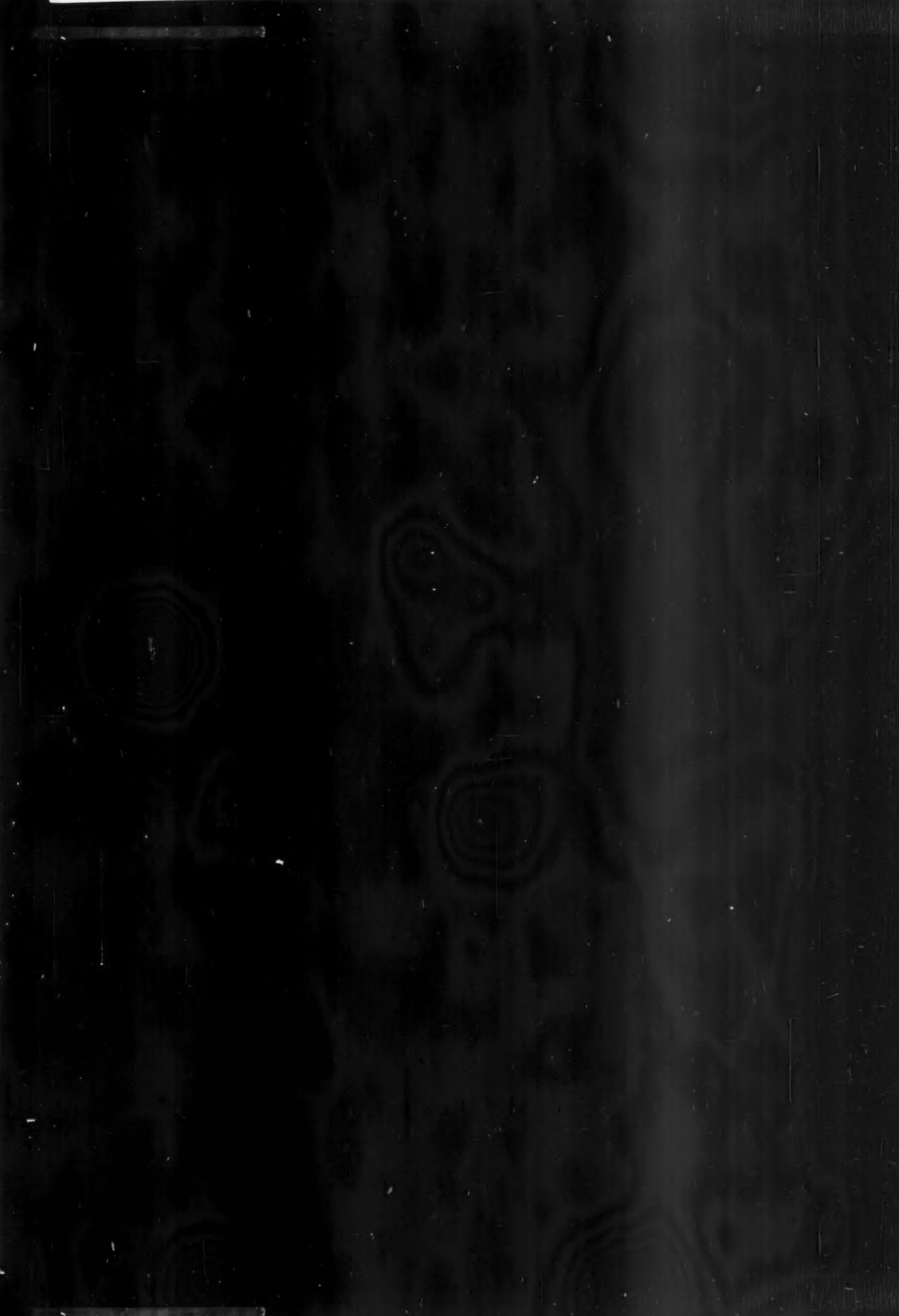
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